

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Falcon Area Parks & Open Space Master Plan 12/00		To provide a long-range Master Plan to provide guided recreation growth.	HIGH	This Plan provides recommendations for utilizing existing facilities, natural resources and open spaces in a manner that will protect environmentally sensitive areas, as well as provides a plan for acquisition of land for active and passive recreation facilities.	
2000 International Building Code with N.C. Amendments		To provide specific construction standards to protect the public health, safety, and welfare.	HIGH	This Code provides specific standards for plumbing, building, mechanical and electrical construction.	
N.C. General Statutes 113A Article 4 Sedimentation Pollution Control Act		To protect existing natural resources and the public health, safety, and welfare.	HIGH	This Act provides a mechanism for sedimentation and erosion control including permitting and enforcement measures.	
Mid-Carolina Rural Planning Organization		To provide comprehensive transportation planning within the rural portion of Cumberland County in order to protect the public health, safety, and welfare.	HIGH	This Organization provides specific plans and technical support for all types of transportation planning, including road networks within the Rural Planning Area.	
Cumberland County Emergency Operations Plan 3/14/02		To provide actions to reduce the vulnerability to a disaster and enhance the recovery from a disaster in order to protect the public health, safety, and welfare.	HIGH	This Plan provides actions to be taken to reduce the vulnerability of people and property to disaster establish an effective mechanism to respond in the event of a disaster and identifies critical facilities impacted during a disaster.	

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Sandhills Area Land Trust (SALT)		A non-profit organization working to preserve the natural beauty and environment of the Sandhills Region. Cumberland County is one of 7 counties working with SALT.	HIGH	This Organization works with citizens, developers, municipalities and landowners to retain the Region's unique environmental features and positively influence growth and development.	
Cape Fear River Assembly		To provide the highest quality of life within the Cape Fear River Basin.	HIGH	This Organization provides scientific study, economic analysis and education in order to make decisions regarding the proper management of the Cape Fear River, its tributaries and adjacent land uses.	
Sustainable Sandhills		To provide regional sustainability planning that preserves natural resources, enhances economic development and improves the quality of life for present and future generations.	HIGH	This Initiative, comprised of members of communities in 6 counties bordering Fort Bragg and Camp Mackall and the Military, is working to provide a cooperative effort to provide a model for regional sustainability planning.	
Joint Compatible Land Use Study 2003		To provide policies and implementation measures to mitigate conflicts between urban development and Military operations on a Regional basis.	MODERATE	This Study provides compatibility measures and land use policy recommendations that have not been adopted.	Adopt the Land Use Study.

Overall, the local ordinances, policies and programs relevant to hazard mitigation are highly effective in terms of hazard mitigation. Several ordinances should be revised to provide stricter development standards and include specific recommendations contained within the Northeast Vision Plan.

Review of these existing plans, policies, ordinances and programs has resulted in specific actions to create new ordinances (or revise existing ordinances) that would serve to reduce the hazard vulnerability of Falcon. Land use, transportation, utility, recreation and capital improvement plans are designed to provide orderly growth and development without endangering the public health, safety and welfare. Preparation, review and revisions of these types of plans are a continuous process. Goals, Actions and information contained within this Hazard Mitigation Plan will be reviewed and incorporated into the planning process. Additionally, the five-year review of the Hazard Mitigation Plan will include an examination of existing plans, policies, ordinances and programs as part of the Capability Assessment as well as Mitigation Strategies.

Legal Capability

Local governments in North Carolina have been authorized by the State legislature to carry out four broad governmental powers: Regulation, Acquisition, Taxation and Spending. As mentioned previously, the Town of Falcon relies upon Cumberland County for regulatory and taxation staffing functions. The following is a summary of North Carolina enabling legislation granting these broad governmental powers relevant to hazard mitigation.

Regulation

General Police Power

All local governments in North Carolina have been granted broad regulatory powers in their jurisdictions. North Carolina General Statutes [NCGS] bestow the general police power on local governments, allowing them to enact and enforce ordinances, which define, prohibit, regulate or abate acts, omissions, or conditions detrimental to the health, safety, and welfare of the people and to define and abate nuisances (including public health nuisances).

Hazard mitigation can be included under the police power to protect the public health, safety, and welfare, therefore towns may include requirements for hazard mitigation in local ordinances. Towns may also use their power to abate nuisances, which could include by local definition, any activity or condition making people or property more vulnerable to any hazard [NCGS Chapter 160A, Article 8 Delegation and Exercise of the General Police Power to Cities].

Building Codes and Building Inspection

Counties and municipalities can engage in risk reduction measures focusing on strengthening building codes and requiring retrofitting of existing structures and facilities to protect the public health safety, and welfare in the event of a natural hazard.

North Carolina has a State mandatory building code, which applies throughout the State [NCGS 143-138 (c)]. However, local jurisdictions may adopt codes for their respective jurisdictions if approved by the State as providing “adequate minimum standards” [NCGS 143-138 (e)]. Local regulations cannot be less restrictive than the State code. Exempted from the State code are public utility facilities other than buildings; liquefied petroleum gas and liquid fertilizer installations, and farm buildings outside municipal jurisdictions. No State permit may be required for structures under \$20,000. (Note that exemptions apply only to State, not local permits).

The State legislature has also empowered towns to carry out building inspections. NCGS Chapter 160A, Article 19, Part 5 empower towns to create an Inspections Department, and enumerates its duties and responsibilities, which include enforcing State and local laws relating to the construction of buildings, installation of plumbing, electrical, heating systems, etc; building maintenance; and other matters.

Land Use

Through various land use regulatory powers, granted by the State, local governments can control the amount, timing, density, and location of new development. These growth characteristics can determine the level of vulnerability of an area in the event of a natural hazard. Land use regulatory powers include the power to engage in planning, enact and enforce zoning, subdivision, floodplain, stormwater and watershed ordinances.

Zoning

Zoning is the most basic tool available to control the use of land. The North Carolina General Statutes 160A-381 gives broad enabling authority for municipalities to use zoning as a planning tool. Counties may also regulate inside a municipal jurisdiction at the request of a municipality, as set forth in NCGS 160A-360(d). The statutory purpose for the grant of power is to promote the health, safety, or the general welfare of the community. Land “uses” controlled by zoning include the type of use, such as residential, commercial, industrial, as well as minimum specifications for use such as lot size, building height, setback, density, etc.

Towns are authorized to divide their territorial jurisdiction into districts, and to regulate and restrict the erection, construction, reconstruction, alteration, repair or use of buildings, structures, or land within those districts [NCGS 160A-382]. Districts may include general use districts, overlay districts, and special use districts or conditional use districts. Zoning ordinances consist of maps and written text.

Comprehensive or Master Planning

Within North Carolina, local governments are required to create or designate a planning agency in order to exercise the regulatory powers related to land use [NCGS 160A-387; 153A-321]. The planning agency may: prepare studies for an area/neighborhood; determine objectives; prepare and adopt plans for achieving objectives; develop and recommend policies, ordinances and administrative means to implement plans; and perform other related duties [NCGS 160A-361].

NCGS 160A-383 requires that zoning regulations be made in accordance with a comprehensive plan. While the ordinance itself may provide evidence that zoning is being conducted “in accordance with a plan,” the existence of a separate comprehensive planning document ensures that the government is developing regulations and ordinances that are consistent with the overall goals of the community.

Subdivision Regulation

Subdivision regulations control the division of land into parcels for the purpose of building a development or sale. Subdivision is defined as all divisions of a tract or parcel of land into two or more lots and all divisions involving a new street or a change in existing streets [NCGS 160A-376]. Flood-related subdivision controls typically require that developers install adequate drainage facilities and design water and sewer systems to minimize flood damage and contamination. They prohibit the subdivision of land subject to flooding unless flood hazards are overcome through filing or other measures, and they prohibit filling of floodway areas. Subdivision regulations require that subdivision plans be approved prior to the division of land. Subdivision regulation is limited in its ability to directly affect the type of use made of land or minimum specifications for structures.

Floodplain Regulation

The North Carolina legislature passed the “Act to Prevent Inappropriate Development in the One Hundred-Year Floodplain and to Reduce Flood Hazards” to regulate development within floodways [NCGS 143-214.51-214.61]. It serves as a risk reduction or risk elimination tool depending upon local government use. The purpose of this law is to minimize the extent of floods by preventing obstructions that inhibit water flow and increase flood height and damage; prevent and minimize loss of life, injuries, property damage and other losses in flood hazard areas; and promote the public health, safety, and welfare of citizens.

The statute directs, rather than mandates, local government to designate a one hundred-year floodplain; adopt local ordinances to regulate uses in flood hazard areas; enforce those ordinances; and grant

permits for use in flood hazard areas that are consistent with the ordinance. The statute established minimum standards for local ordinances and provides for variances for prohibited uses such as:

- (a) A flood hazard prevention ordinance adopted by a county or city pursuant to this part shall, at a minimum:
 - 1. Meet the requirements for participation in the National Flood Insurance Program and of this section.
 - 2. Prohibit new solid waste disposal facilities, hazardous waste management facilities, salvage yards, and chemical storage facilities in the 100-year floodplain except as noted in section (b) below.
 - 3. Provide that a structure or tank for chemical or fuel storage incidental to a use that is allowed under this section or to the operation of a water treatment facility may be located in a 100-year floodplain only if the structure or tank is either elevated above base flood elevation or designed to be watertight with walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.
- (b) A flood hazard prevention ordinance may include a procedure for granting variances for uses prohibited under G.S. 143-215.54.
- (c) A county or municipality shall notify the Secretary of Crime Control and Public Safety of its intention to grant a variance at least 30 days prior to granting the variance. A variance may be granted upon finding that all of the following apply:
 - 1. The use serves a critical need in the community.
 - 2. No feasible location exists for the location of the use outside the 100-year floodplain.
 - 3. The lowest floor of any structure is elevated above the base flood elevation or is designed to be watertight with walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.
 - 4. The use complies with all other applicable laws and regulations.

Also, the statute ensures that local ordinances meet the minimum requirements of participation in the National Flood Insurance Program (NFIP), which will afford residents the ability to purchase flood insurance through the NFIP. Additionally, communities with such ordinances will be afforded priority in the consideration of applications for loans and grants from the Clean Water Revolving Loan and Grant Fund.

Acquisition

Towns can eliminate the risk of hazards through their power to acquire property, either in fee or lesser interest such as an easement. This removes the property from the private marketplace, thereby eliminating or reducing the possibility of inappropriate development. North Carolina legislation empowers municipalities to acquire property for public purpose by gift, grant, devise, bequest, exchange, purchase, lease or eminent domain [NCGS Chapter 160A Article 11].

Taxation

The power to levy taxes and special assessments has been delegated to municipalities by the North Carolina legislature [NCGS 160A Article 9]. This power allows municipalities to set preferential tax rates for areas unsuitable for development, such as wetlands, thereby discouraging development in hazardous

areas. Local governments may also levy special assessments on property owners for all or part of the costs of acquiring, constructing, reconstructing, extending or otherwise building or improving beach erosion control, or flood and hurricane protection works within a designated area [NCGS 160A 238].

Spending

Counties and municipalities have been granted power to make expenditures in the public interest by the North Carolina General Assembly. An annual budget and a Capital Improvement Plan (CIP) can include hazard mitigation efforts. A CIP serves as a schedule for providing county or municipal services over a specified period of time. Committing to a timetable for the extension of facilities and services, local governments can effectively steer future growth and development and mitigate the impacts of natural hazards. The Town of Falcon does not have a CIP, but does have an annual budget.

Fiscal Capability

The North Carolina General Assembly has empowered municipalities to make expenditures in the public interest [NCGS 160A 475]. The primary source for funding these expenditures comes from property taxes. These revenues generally finance critical services available and delivered on a daily basis. Examples of these services include: public utilities, solid waste management, emergency services, health and social services, and schools. The Town of Falcon does not have available funds to support special projects such as hazard mitigation activities. Falcon looks to the following sources for hazard mitigation funding:

Government Funding

Federal and State funds are available to local governments for the development and implementation of hazard mitigation plans. These sources are listed below.

Federal Funding

Hazard Mitigation Grant Program (HMGP) - This program provides funding for hazard mitigation measures following a Presidential disaster declaration. Even though the Federal government supplies the majority of the funds for this program, the program is administered on the State level. HMGP funds can be used for projects such as acquisition or relocation, retrofitting, development of local mitigation standards and comprehensive mitigation plans, structural hazard control and the purchase of equipment to improve preparedness and response.

Pre Disaster Mitigation Program Grants (PDM) - Pre Disaster Mitigation Program provides funding to States and local jurisdictions for cost-effective hazard mitigation actions. FEMA provides PDM grants to States, that in turn, provide sub-grants to local governments for mitigation activities such as planning and the implementation of projects identified through the evaluation of natural and man-made hazards.

Flood Mitigation Assistance Programs - This program (FMAP) furnishes mitigation assistance to States, local jurisdictions and individuals to reduce or eliminate the long-term risk of flood damage to the built environment and real property. FMAP is available on an annual basis and eligibility is based upon a jurisdiction participating in the National Flood Insurance Program and developing a mitigation plan. These funds may be used for elevation and/or dry flood proofing of structures, acquisition of real property, relocation or demolition of structures, as well as other minor structural projects.

National Flood Insurance Program - Participation in this risk-sharing program requires jurisdictions to adopt and enforce floodplain management ordinances designed to reduce future losses.

Buy-Out Programs - Funding is available to buy back floodplains, relocate residents, and demolish structures in order to eliminate or reduce payouts for recurring flood damage.

Earthquake Hazard Reduction Grants - These funds are available to States having a moderate or high risk of seismic activity.

Community Development Block Grants - The Community Development Block Grant (CDBG) is designed to assist counties and municipalities in rehabilitating substandard dwelling units and to expand economic opportunities, primarily for low-to-moderate income families. Additionally, as a result of a Presidential declared disaster, CDBG funds may be used for long-term needs such as acquisition, reconstruction, and redevelopment of disaster-affected areas.

Small Business Administration (SBA) Pre-Disaster Mitigation Loan Program - The purpose of this program is to make low-interest, fixed-rate loans to eligible small businesses for the purpose of implementing mitigation measures to protect business property from damage that may be caused by future disasters. The program is a pilot program, which supports the Federal Emergency Management Agency (FEMA) Pre-Disaster Mitigation Program.

Ability to Pay - The North Carolina Department of Commerce has ranked the 100 counties in an economic tier system due to the Lee Quality Jobs and Business Expansion Act of 1966, which provides for a sliding scale of State tax credits for economic investment. This Act has become North Carolina's primary development tool in an effort to assist smaller rural counties become economically competitive. The most economically depressed counties are ranked in Tier 1 and the most economically prosperous are ranked in Tier 5. These rankings are evaluated annually based on (1) population growth, (2) unemployment rate, and (3) per capita income.

The tier ranking is widely used by the State as a measure of an individual county's ability to pay when applying for State and Federal grants. Cumberland County is ranked as a Tier 4 County.

Non-Government Funding

Another potential source of revenue for local mitigation efforts are the contribution of non-governmental organizations, such as churches, charities community relief funds, the American Red Cross, hospitals, for-profit businesses and non-profit organizations, such as nature conservancy and land trust organizations.

Technical Capability

The Town of Falcon has limited resources for technical staff. The Town relies on the following technical sources:

State and Federal Technical Assistance

Agencies such as the Federal Emergency Management Agency (FEMA) and the North Carolina Division of Emergency Management (NCDEM) have made available numerous implementation manuals and other resource documents. These manuals provide information on mitigation techniques for various hazards, including hurricanes, floods, wildfires, tornadoes and earthquakes. Additionally, they provide technical information on engineering principles, construction methods, costs and suggestions for how techniques can be financed and implemented. Federal agencies such as the U.S. Army Corps of Engineers and Soil Conservation Service also provide similar services.

Statewide Floodplain Mapping Initiative

The State of North Carolina, through the Federal Emergency Management Agency's Cooperating Technical Community partnership initiative, has been designated as a Cooperating Technical State (CTS). As a CTS, the State will assume primary ownership and responsibility for Flood Insurance Rate Maps (FIRM) for all North Carolina communities. This project included conducting flood hazard analysis and producing updated digital FIRM maps.

The State has acquired raw elevation data for the six eastern river basins, Cape Fear, Lumber, Neuse, Pasquotank, Tar-Pamlico, and White Oak, which will be used to develop Digital Elevation Models (DEMs) update flood hazard data. The updated flood hazard data provides current, accurate information for local jurisdictions and property owners to make sound site planning and design decisions when building new structures and infrastructure and retrofitting existing structures. The Town completed and adopted the new FIRM maps on October 18, 2006.

Local Technical Assistance

Cumberland County has a geographic information system (GIS) that provides essential information and technology for hazard response and mitigation. The GIS system provides detailed data on property ownership, land use type and location, values of property and structures, location of the Special Flood Hazard Area and other infrastructure.

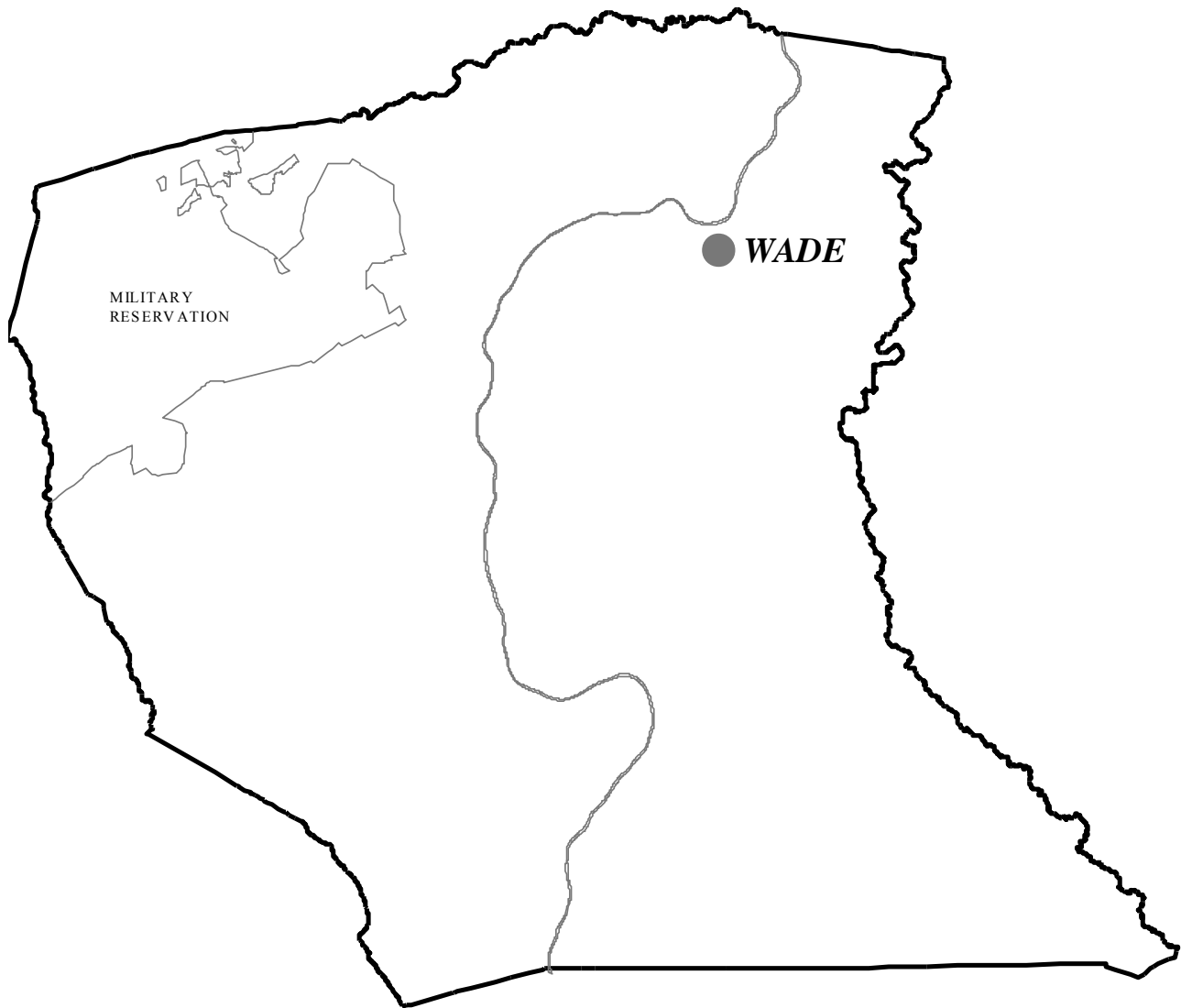
This system provides quick access and processing of detailed data that can be used to assist in deployment of resources, before, during and after a natural disaster, as well assists in planning for the mitigation of future disasters.

As previously mentioned in the Unincorporated Area Hazard Mitigation Plan Section entitled Local Departments , Agencies and Organizations, Falcon has access to a responsive and highly trained staff who are capable of implementing mitigation strategies, as well as educating the public about potential hazards and the process necessary to mitigate these hazards.

Political Capability

The Falcon Town Board of Commissioners is knowledgeable of the potential hazards faced by their respective jurisdictions, as well as past history of hazard events and recovery efforts. Additionally, the Cumberland County Joint Planning Board (serving Falcon) is aware of the importance of hazard mitigation planning. Due to this knowledge and understanding, the current and future political climates are expected to be favorable for supporting hazard mitigation strategies.

TOWN OF WADE HAZARD MITIGATION PLAN



TOWN OF WADE HAZARD MITIGATION PLAN

COMMUNITY PROFILE

The Town of Wade, located in the northeastern section of Cumberland County approximately 14 miles northeast of Fayetteville along U.S. 301 and just west of Interstate 95, consists of approximately 1.73 square miles. Located above the Cape Fear River Bluffs, the topography is relatively flat. The economic profile is similar to the overall County, with private industry and retail trade listed as significant sources of civilian employment. According to the North Carolina Office of Management and Budget, the Town has an estimated 2009 population of 650 persons. It has a Mayor-Council form of government consisting of a mayor and five commissioners. The chief administrative officer is the Town Clerk.

IDENTIFYING AND PROFILING HAZARDS

For this update the Technical Committee reviewed **Table A1 – Hazard Identification and Analysis and Table A2 – Summary by Hazard Vulnerability by Jurisdiction**. The Technical Committee determined the following hazards still could affect Wade: hurricane, drought, thunderstorms, severe winter storms, tornadoes, extreme heat, wildfires, and earthquakes. Additionally, the Technical Committee focused on flooding since it is associated with and caused by other types of hazards, such as thunderstorms, hurricanes and tornadoes. Wade has experienced 8 hurricanes, 3 thunderstorms, two hailstorm, 15 winter storms, two extreme heat events, and one drought between January 1950 and June 2010 per NOAA history profile of Local Storm Events. It is highly likely that thunderstorms and extreme heat events will occur in the future. Additionally, it is likely that Wade will experience hurricanes, tornadoes, droughts, wildfires, and severe winter storms. Localized flooding and earthquakes are possible. Detailed information on each hazard type and their profile are contained in Appendix A - Hazard Profile.

MITIGATION STRATEGIES AND POLICIES

Town of Wade adopted the three (3) goals developed by the Technical Committee to be achieved by its Mitigation Plan. These goals are the basis for a more specific plan of action. The following goals are broad policy Statements aimed at guiding and directing future activity so that persons, property, government, and infrastructure are protected from the impacts of the natural hazards that affect Town of Wade.

GOAL #1

Reduce vulnerability of Cumberland County and its municipalities to all natural hazards for existing development, future development, redevelopment and infrastructure.

GOAL #2

Identify and protect all properties/natural resources that are at risk of damage due to a hazard and to undertake cost-effective mitigation measures to minimize losses.

GOAL #3

Improve public awareness, education and outreach programs for the natural hazards that Cumberland County and its municipalities are most likely to experience.

Within the following pages, mitigation actions for the Town of Wade are listed and will identify the following information for each action:

- Hazard targeted – *Hazard the action is targeted to mitigate.*
- Goals addressed – *Goal(s) the action will address.*
- Document reference – *Ordinance(s), Policies or Programs that the action references, if any.*
- Whether it would be a new policy or continuation or an amendment to an existing policy
- Priority – *Each action ranked in terms of overall importance (high, moderate or low). Priorities were based upon the following criteria: cost-benefit, hazard identification and profile, vulnerability and capability assessments, and mitigation goals.*
- Funding sources – *List of funding source or potential funding source*
- How the action will mitigate the hazard
- How the action will reduce overall vulnerability
- Will the action be:
 - Cost effective – *Is a measure of how well the cost achieves the intended action.*
 - Environmentally Sound – *Is a determination if technology exists within the financial means of the jurisdictions that can achieve an action.*
 - Technically feasible - *The actions has minimal or no harm to nature or the environment.*
- On-going, Short-term or Long-term Implementation - *On-going actions are those that currently exist and should be continued. Short-term actions are those that can be implemented within existing resources and should be accomplished within a time frame of six (6) months to two (2) years. Long-term actions will take additional resources or authorities and should be organized to begin implementation within a time frame of 3-5 years.*
- Person(s) or department responsible for the action – *Person(s) or Department(s) responsible for implementing the action.*
- Benchmark and indicator of progress – *Explains what needs to be accomplishment to meet this action.*
- Update – *Explains what has or has not been done to this action.*

The Hazard Mitigation Technical Committee looked at all the actions from the original Plan and the Updated Plan and considered the jurisdiction's cost of the action to be taken and their cost if no action is taken. In most cases it was determined that it was far less costly for the jurisdictions to take preventive action whenever possible than wait until a hazard occurred, therefore most of the actions taken are more preventive in nature. Most of the jurisdictions have limited financial resources to establish capital projects that address existing facilities vulnerable to the various hazards, such as relocating, removing, purchasing vulnerable properties; providing public water, or placing electrical lines underground. The Hazard Mitigation Technical Committee determined that flooding was the most likely hazard to occur based on past records. Most of the past damage occurred on properties located in the Special Flood Hazard Area. Many of these properties are aged and through attrition and general decay will eventually be removed from the hazardous area. Preventive measures will keep new structures from being built in these areas.

ACTION 1: *Encourage The Use Of Cluster Type Development To Preserve Special Hazard Areas.*

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	Town of Wade Subdivision Ordinance (Zero Lot Line Development)
New, Continuation, Amendment	Completed
Priority	High
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Preserve the special hazard area, while allowing property to be developed to its potential density.
Reduce Overall Vulnerability	Limit future development within the special hazard area.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Short-term
Person(s) or Department Responsible	Cumberland County Planning Department
Benchmark and Indicator Of Progress	The Town of Wade amended their Subdivision Ordinance to include Zero Lot Line Development on January 11, 2005. This allows a developer to maximize their potential density and not encroach into the Special Flood Hazard Area.

ACTION 2: Develop Uniform Flood Damage Prevention Ordinance.

Hazard Targeted	Flood
Goals Addressed	1
Document Reference, if applicable	Cumberland County, Fayetteville, Hope Mills and Spring Lake Flood Damage Prevention Ordinance
New, Continuation, Amendment	Deletion of this Action
Priority	Medium
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Reduce the impact of new developments within special flood areas, thus reducing the amount of losses during a hazard event and maintains compliance with NFIP.
Reduce Overall Vulnerability	Limiting new developments within the flood hazard areas would reduce the losses during a hazard event.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Long-term
Person(s) or Department Responsible	Cumberland County Engineering Department
Benchmark and Indicator Of Progress	The Town of Wade adopted the revised <u>Cumberland County Flood Damage Prevention Ordinance</u> and new FIRM maps on October 17, 2006. Originally the Town had no 100 year Floodplain within its town limits. The new digital FIRM maps adopted by the Town have designated Special Flood Hazard Area within the Town. Also continues compliance with NFIP. See Unincorporated Area Action #6 for further explanation for the deletion of this action.

ACTION 3: *Revise Subdivision Ordinance To Require That All Utilities Be Placed Underground With The Exception Of High Voltage Electrical Transmission Lines.*

Hazard Targeted	Multi-hazard (Flooding, Hurricanes, Tornadoes, Thunderstorms, and Winter Storms)
Goals Addressed	1; 2
Document Reference, if applicable	Town of Wade Subdivision Ordinance
New, Continuation, Amendment	Completed
Priority	Medium
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Reduce the overall impact of lost utility services, and protect the public health, safety, and welfare.
Reduce Overall Vulnerability	Reduce damage cost, loss of service, and eliminate life-threatening situations to citizens and utility companies.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Short-term
Person(s) or Department Responsible	Cumberland County Planning Department
Benchmark and Indicator Of Progress	Currently the Wade Subdivision Ordinance requires all development shall have utilities placed underground where practical". Mapping of underground electrical utilities is the responsibility of the electrical provider.

ACTION 4: *Develop A Program To Ensure Drainage Ways, Culverts And Storm Drains Are Free Of Debris.*

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	
New, Continuation, Amendment	Completed
Priority	High
Funding	Stormwater Fund

How the Action Will:

Mitigate the Hazard	Regular maintenance of debris from drainage ways, culverts and storm drains would provide the proper flow of water and reduce flooding.
Reduce Overall Vulnerability	Reduce vulnerability of flooding to streets, structures, and land located along drainage ways, culverts and storm drains.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Long-term
Person(s) or Department Responsible	Cumberland County Engineering Department
Benchmark and Indicator Of Progress	The Town of Wade ensures that the drainageways, culverts and storm drains are free of debris on Town streets and property. The NC Department of Transportation maintains streets that are a part of the State Road system.

ACTION 5: *Develop A Landscape Ordinance That Will Encourage Protection To Natural Areas Through Design And Provide More Vegetation In Urban Development.*

Hazard Targeted	Flood, Extreme Heat
Goals Addressed	1; 2
Document Reference, if applicable	Town of Wade Zoning Ordinance
New, Continuation, Amendment	Continuation
Priority	Moderate
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Provide more pervious area for natural drainage and provide reduction in extreme heat.
Reduce Overall Vulnerability	Reduce the vulnerability to localized flooding and extreme heat.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Long-term
Person(s) or Department Responsible	Cumberland County Planning Department
Benchmark and Indicator Of Progress	Landscaping requirements included in the Cumberland County Zoning Ordinance are applicable to the Town of Wade. These landscaping requirements apply to non-residential and mixed use development (adopted June 20, 2005). The Planning Staff is currently developing a zoning ordinance specifically for the Town of Wade. This Ordinance will include a landscape ordinance the same as the existing County Zoning Ordinance.

ACTION 6: *Revise Subdivision Ordinance Requiring Additional Access To Be Used As An Evacuation Route For Developments Located Near Special Hazard Areas.*

Hazard Targeted	Multi-hazard (Flooding, Hurricanes, Tornadoes, Thunderstorms and Wildfires)
Goals Addressed	1; 2
Document Reference, if applicable	Town of Wade Subdivision Ordinance
New, Continuation, Amendment	Continuation
Priority	High
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Will provide an additional access for residents, public safety officials and emergency services to those developments located near a special hazard prone area.
Reduce Overall Vulnerability	Reduce the possibility of a life-threatening situation for residents, public safety and emergency services.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Short-term
Person(s) or Department Responsible	Cumberland County Planning Department
Benchmark and Indicator Of Progress	Currently, there are no major areas in the Town affected by special flood hazard areas. The Staff will be reviewing Wade's Subdivision Ordinance for updates within the next year. The update could include this requirement.

ACTION 7: *Identify Areas That Are Susceptible To Wildfires And Consider Prescribed Fire (Controlled Burning) Management Tool To Reduce The Impact Of Wildfire Hazards.*

Hazard Targeted	Wildfires
Goals Addressed	1; 2
Document Reference, if applicable	Not applicable
New, Continuation, Amendment	Deferred
Priority	High
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Provide a mechanism to limit the amount of damage to those areas susceptible to wildfires. This is very important to the small rural municipalities because most of the land surrounding the Town's is undeveloped, woodlands, and farmland.
Reduce Overall Vulnerability	Reduce the amount of woodland that is lost to wildfires.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Long-term
Person(s) or Department Responsible	NC Forest Service
Benchmark and Indicator Of Progress	Currently the Cumberland County office of Forest Service has developed a draft risk assessment of those areas of Cumberland County (including Town of Wade) that are susceptible to wildfires. This risk assessment is general in nature and for in office use only. The NC Forest Service has completed five Community Wildfire Protection Plans for certain areas of Cumberland County.

IMPLEMENTATION

Plan implementation will start from the time that it is adopted. The Wade Board of Commissioners will be responsible for pursuing the development of policies, programs, ordinances, amendments, and regulations as they are assigned by the actions listed above. The Cumberland County Joint Planning Board staff will prepare these planning documents, ensuring that the goals, objectives and strategies of these documents will be consistent with the Hazard Mitigation Plan and would not increase the hazard vulnerability or decrease hazard capability of Wade. The Cumberland County Joint Planning Board (also serving on the Cumberland County Hazard Mitigation Steering Committee) would receive all planning documents for review and approval. Their comments are forwarded to the Wade Board of Commissioners for review and adoption. The public will have an opportunity to provide input at public hearings held before these entities. It will be the responsibility of the Town Clerk to ensure that these actions are carried out within the allocated time frame.

MONITORING, EVALUATING, AND REPORTING PROGRESS

Periodic monitoring and reporting of the Wade Hazard Mitigation Plan Update of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update is required to ensure that the goals and objectives for Town of Wade are kept current and that local mitigation efforts are being carried out. The monitoring and reporting is to supplement the Plan within the five-year cycle. The Cumberland County Emergency Services Department will act as the contact and clearing house for relevant information.

The Plan shall be reviewed annually, unless a situation occurs making it necessary to review sooner (e.g. natural disasters). The Town of Wade shall request that the Cumberland County Joint Planning Board include this annual review in the Board's Work Program. The review will be coordinated with The Cumberland County Emergency Management Department. Then the report will be forwarded to the Wade Board of Commissioners for review and adoption. The public will be given the opportunity to provide input public hearings before the Cumberland County Joint Planning Board and the Wade Board of Commissioners regarding the Plan.

The annual report will include the following:

1. An evaluation of the effectiveness and appropriateness of the mitigation actions proposed in the Plan.
2. A list of problems that have occurred in the implementation process.
3. Changes in Wade's priorities.
4. Recommendations for changes, revisions, or amendments to the Plan.

The following questions will be helpful to the Town of Wade in assessing their Hazard Mitigation Plan: (1) Do the goals and objectives address current and expected conditions; (2) Has the nature or magnitude of risks changed; (3) Are the current resources appropriate for implementing the Plan; (4) Are there implementation problems, such as technical, political, legal or coordination issues with other agencies/departments; (5) Have the outcomes occurred as expected; and (6) Did the agencies/departments and other partners participate in the Plan and planning process as proposed.

REVISIONS AND UPDATES

As updates occur, the date, reason and responsible party should be noted. Updates or revisions, which affect the Plan as a whole and impact any other jurisdiction(s) will require the approval of the jurisdiction(s) governing body.

At the end of every five-year cycle, the Hazard Mitigation Technical Committee will submit the hazard profile, vulnerability assessment and local capability assessment updates or revisions to FEMA and NCDEM for review. Increased development, increased exposure to certain hazards, the development of new mitigation capabilities or techniques and changes to Federal or State legislation are examples of changes that may affect the condition of the Plan. The updated Plan will be reviewed by the Cumberland County Joint Planning Board and its recommendation forwarded to the Wade Board of Commissioners for consideration and adoption. Copies of any revision, amendment or update to the Plan must be filed with the Wade Town Clerk and Cumberland County Emergency Services Department, and added to the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update and will be available to the public for review.

Resolution

WHEREAS, the Town of Wade desires to remain eligible for the State and Federal disaster relief funds in the event of a declared disaster in the Town; and

WHEREAS, the Wade Board of Commission recognizes the value of having a Plan in place for identifying, prioritizing, and mitigating potential and real hazards that could affect Town of Wade; and

WHEREAS, Cumberland County Joint Planning Board staff prepared the Wade Hazard Mitigation Plan as part of Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update and has revised the Plan as suggested by the North Carolina Division of Emergency Management after its submittal to all appropriate government entities for review and comments; and

WHEREAS, the North Carolina Division of Emergency Management has endorsed the Wade Hazard Mitigation Plan as part of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update; and

NOW, THEREFORE, BE IT RESOLVED by Wade Board of Commissioners that it adopts the Wade Hazard Mitigation Plan as part of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update; and

BE IT FURTHER RESOLVED that the Wade Board of Commissioners resolve to annually review the Plan and Make revisions to all sections regarding the Town of Wade in the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update when new data and information becomes available, as mitigation measures are achieved, and as mitigation strategies evolve; and

FURTHER, that the Town of Wade may update and revise the Wade Hazard Mitigation Plan Update as part of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update as it relates to the Town but does not affect any other jurisdiction. If any revision, update or amendment that involves another jurisdiction(s), the updates and revisions must be approved by the governing body of the affected jurisdictions. Copies of any revision, amendment or update to the Plan by the Town of Wade must be kept on file with their Clerk and with the Cumberland County Emergency Services Department and added to the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update; and

FURTHER, that administrative changes, wording corrections, the hazard analysis, and vulnerability assessment or other such portions of the Wade Hazard Mitigation Plan as part of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update, do not require additional action by the Wade Town Board of Commissioners.

Adopted 9th day of August, 2011

Attest:

Kimberly C. Burchett
Wade Town Clerk

Shull Perkins
Mayor, Town of Wade

VULNERABILITY ASSESSMENT

An assessment of the vulnerability of the population and facilities in the Town of Wade examined the type and location of development, infrastructure, and public buildings. The Town has experienced some of the same hazards as the overall County (see Vulnerability Assessment of the overall County Section and Identifying and Profiling Hazards for Wade). The topography in the Town is basically flat with a gentle slope toward the Cape Fear River approximately one mile to the west. Wade has 6 acres in the special flood hazard area. Wade has participated in the NFIP since October 3, 2000. Small streams and drainage canals provide drainage for the Town to the Cape Fear River. Wildfires are also not listed due to the urbanization, crop farming in the area, and development codes that provide spacing between dwellings. The types of hazards and the areas they impact, relative to the Town of Wade, are delineated in **Table A1 - Hazard Identification and Analysis** and **Table A2 - Summary of Hazard Vulnerability by Jurisdiction** located in Appendix A - Hazard Profile.

Current Conditions

Information compiled for the Town of Wade, through GIS, tax records, existing studies, zoning and subdivision regulations, past records, and data from other Federal, State and local agencies, shows vulnerable facilities and special populations is shown in **Table 41 - Wade Private Buildings Vulnerability Assessment**. Private development in the Town comprises 195 single-family dwellings valued at \$38,273,176 accommodating 517 persons; 15 multi-family structures valued at \$290,700 serving 40 persons; 8 commercial structures valued at \$2,010,388 that impacts 19 persons; and industrial development consisting of 5 structures valued at \$3,802,628 impacting 47 persons. A summary of private buildings in Wade reveals that there are 231 structures with an approximate value of \$49,088,654 impacting 632 persons.

The critical facilities identified are listed in Appendix B – Critical Facilities Ranking. Critical facilities in the Town include infrastructure (such as roads, bridges and water lines), a fire station, and government offices as shown on **Map 34 - Wade Public Buildings and Critical Facilities Location**. Public buildings and critical facilities that could be impacted includes 32,201 feet of water lines valued at \$2,898,090; 51,544 feet of sewer lines valued at \$7,731,600; a water tower with 8 wells valued at \$989,646; and 35,394 feet of streets with an estimated value of \$4,381,240. Other public buildings and critical facilities include a fire station valued at \$2,698,180 that impact 15 persons; two government office valued at \$897,150 impacting three persons; and a utility operations center with two buildings valued at \$2,860,071 impacting 30 persons as shown in **Table 42 - Wade Public Buildings and Critical Facilities Vulnerability Data**. A summary of all public and private buildings and critical facilities shows 245 buildings and infrastructure valued at \$75,752,543 impacting 701 persons which are subject to a natural hazard in Wade.

Wade has approximately 6 acres of land in the designated flood prone area. Data and a map showing the vulnerable facilities and structures are in **Table 43 - Wade Private Buildings Flood Vulnerability Assessment** and **Table 44 - Wade Public Buildings and Critical Facilities Flood Vulnerability Data**. The Town participates in the National Flood Insurance Program. Presently, there are two private homes valued at \$559,484 impacting four persons and one other building valued at \$447,484 impacting two persons. There are no public buildings in flood prone areas as shown on **Map 35 - Wade Facilities/Structures within the Flood Prone Areas**. Critical facilities in flood prone area include 150 linear feet of water lines valued at \$13,500; 280 linear feet of streets valued at \$52,920; and 66 linear feet of sewer lines valued at \$9,900. The total value of buildings and critical facilities within flood prone areas in the Town of Wade is approximately \$1,083,288.

There are only three properties affected by the Special Flood Hazard Areas. One is a large horse farm and barn with very little flood area along a small stream and two residential lots. Houses located on

these residential lots as well as the horse farm barn are outside the special Flood Hazard Area, but are included in the Flood Vulnerability Assessment. The Town of Wade has not had any repetitive loss structures. Prior to new digital FIRM maps the Town of Wade did not have any designated flood located inside the Town.

Vulnerable Populations

Vulnerable population data was taken from the profile of General Demographic Characteristics of Wade in the 2000 Census. Vulnerable population is defined as the elderly (75 years of age and older), institutionalized persons, disabled persons, persons with a language barrier, persons below the poverty level, persons without a vehicle or telephone, those living in certain mobile homes, and renters. Wade has 42 individuals over 75 years of age, no institutionalized persons, 163 persons on disability, 23 persons that speaks English less than very well, 16 families below the poverty level, 16 households without access to a vehicle, 11 households without a telephone, 64 families living in mobile homes, and 63 families living in rented units. Since the 2010 Census data was not available during the preparation of this document, we have kept the Census 2000 data in the document. If this data comes available during the review process, we will update the final document with the 2010 data.

Development Trends and Projections

Development trends that may impact hazard mitigation include the direction of growth, current zoning and future land use. Town is a partner with NORCRESS (a legally organized sanitary district with the Board of County Commissioners serving as its Board) in the provision of sewer service to northeastern Cumberland County. The Town provides water from deep wells. As Wade experiences more housing growth and demand on its current water, they will need to look at other alternative sources of water. Wade's long range plans include tying to a public water source. The completion of the Fayetteville Outer Loop will impact the Town by providing quick access into the Fayetteville metro area. The Town is also located near a mega-site that has great potential for a major industry with the access to I-95, the availability of natural gas, access to rail service, and public sewer. All of these factors enhance the attractiveness of the Town for development.

Wade's zoning districts include agricultural, suburban, low and medium density residential (suburban-two or less units per acre, low – greater than two but less than six units per acre and medium greater than six but less than 15 units per acre), office and institutional, commercial, and manufacturing districts as shown on **Map 36 - Wade Zoning Map**. Data shows that approximately 86 acres zoned agricultural (A1), 566 acres are zoned suburban density residential (R30 and RR), 95 acres are zoned low density residential (R15), 201 acres of medium density residential (R6 and R6A), six acres of office and institutional (O&I), 37 acres of commercial (CP, C3 and C1P), 113 acres of manufacturing (M2 and MP) and 6 acres Conservancy District (CD).

The proposed land use for Wade is shown on **Map 37 - Wade Land Use Plan Map**. This map indicates the community's vision for the future use of land. According to the Plan approximately 15 acres suburban, 86 acres are designated for open space, recreation and environmental corridor, 604 acres for low density residential, 326 acres of medium density residential, 20 acres of office & institutional, and 58 acres of commercial.

Projections for private buildings in Wade for 2025 shows that there will be 237 single family dwellings, valued at \$46,428,215 impacting 627 persons, 18 multi-family dwelling valued at \$352,641 impacting 49 persons, 10 commercial buildings valued at \$2,438,750 impacting 23 persons, 6 industrial structures valued at \$4,612,871 impacting 57 persons. In summary, the number of private buildings in Wade subject to a natural hazard in 2025 is projected to be 281 buildings with an estimated value of \$59,548,195 impacting 767 persons (See Appendix C-Methodology for projection method).

Projections for public buildings and critical facilities buildings in Wade for 2025 shows that there will be 10 wells & a water tower valued at \$1,200,514; one medical facility valued at \$2,304,461 impacting 25 persons; 39,062 linear feet of water lines valued at \$3,515,599; 42,936 linear feet of street valued at \$8,114,821; 62,527 linear feet of sewer lines valued at \$ 9,379,007; a fire station valued at \$3,273,093 impacting 19 persons; government offices valued at \$1,008,310 impacting four persons; and one operations center (two buildings.) valued at \$3,469,479 impacting 36 persons. In summary, the projected number of public buildings and critical facilities in Wade subject to a natural hazard in 2025 is 297 buildings and infrastructure valued at \$91,893,480 impacting 851 persons. (See Appendix C-Methodology for projection method)

Table 41 - Wade Private Buildings Vulnerability Assessment

Hazard Type(s): Hurricane, Drought, Thunderstorms, Severe Winter Storms, Tornadoes, Extreme Heat, Wildfires, and Earthquakes.

Current Conditions				Potential Future Conditions (Projection Year 2025)		
Type of Development	Number of Existing Private Buildings	* Current Value	Current Number of People	Projected Number of Private Buildings	Projected Value	Projected Number of People
Single-Family Residential	195	\$38,273,176	517	237	\$46,428,215	627
Multi-Family Residential	15	\$290,700	40	18	\$352,641	49
Commercial	8	\$2,010,388	19	10	\$2,438,750	23
Industrial	5	\$3,802,628	47	6	\$4,612,871	57
Other	8	\$4,711,762	9	10	\$5,715,718	11
Subtotal	231	\$49,088,654	632	281	\$59,548,195	767

* Values and building counts from County GIS - January 2010
The methodology used in preparing this data is described in Appendix C.

Table 42 - Wade Public Buildings & Critical Facilities Vulnerability Assessment

Hazard Type(s): Hurricane, Drought, Thunderstorms, Severe Winter Storms, Tornadoes, Extreme Heat, Wildfires, Earthquakes,

Current Conditions				Potential Future Conditions (Projection Year 2025)		
Type of Development	Number of Existing Public Buildings and Critical facilities	* Current Value	Current Number of People	Projected Number of Public Buildings	Projected Value	Projected Number of People
Sewage Pump Stations	2	\$800,000	0	2	\$970,460	0
Water Tower and Wells	8	\$989,646	0	10	\$1,200,514	0
Medical Center	1	\$1,899,686	21	1	\$2,304,461	25
Schools	0	\$0	0	0	\$0	0
Infrastructure (roads, bridges, drainage, dams, etc.)	Water Lines – 32,201' Streets – 35,394' Sewer Lines – 51,544'	\$2,898,090 \$6,689,466 \$7,731,600	N/A	Water Lines - 39,062' Streets – 42,936 Sewer Lines – 62,527	\$3,515,599 \$8,114,821 \$9,379,007	N/A
Police Stations	0	\$0	0	0	\$ 0	0
Fire Stations	1	\$2,698,180	15	1	\$3,273,093	19
Hazard Materials Facilities	0	\$0	0	0	\$0	0
Government offices	2	\$ 897,150	3	2	\$1,088,310	4
Emergency Shelters	0	\$ 0	0	0	\$0	0
Utility Operations Center	2	\$2,860,071	30	2	\$3,469,479	36
Subtotal	Buildings - 16 Infrastructure	\$10,144,733 \$17,319,156	69	Buildings - 18 Infrastructure	\$12,306,317 \$21,009,427	84
TOTAL:	Buildings - 245 & Infrastructure	\$76,552,543	701	Buildings - 297 & Infrastructure	\$92,863,940	851

* Values and building counts from County GIS- January 2010
The methodology used in preparing this data is described in Appendix C.

Table 43 - Wade Private Buildings Flood Vulnerability Assessment

Hazard Type(s): Flood

Current Conditions				Potential Future Conditions (Projection Year 2015)		
Type of Development	Number of Existing Private Buildings	* Current Value	Current Number of People	Projected Number of Private Buildings	Projected Value	Projected Number of People
Single-Family Residential	2	\$559,484	4	2	\$678,696	5
Multi-Family Residential	0	\$0	0	0	\$0	0
Commercial	0	\$0	0	0	\$0	0
Industrial	0	\$0	0	0	\$0	0
Other	1	\$447,484	2	2	\$542,831	2
Subtotal	3	\$1,006,968	6	3	\$1,221,527	7

* Values and building counts from County GIS- January 2010)
The methodology used in preparing this data is described in Appendix C.

Table 44 - Wade Public Buildings & Critical Facilities Flood Vulnerability Assessment

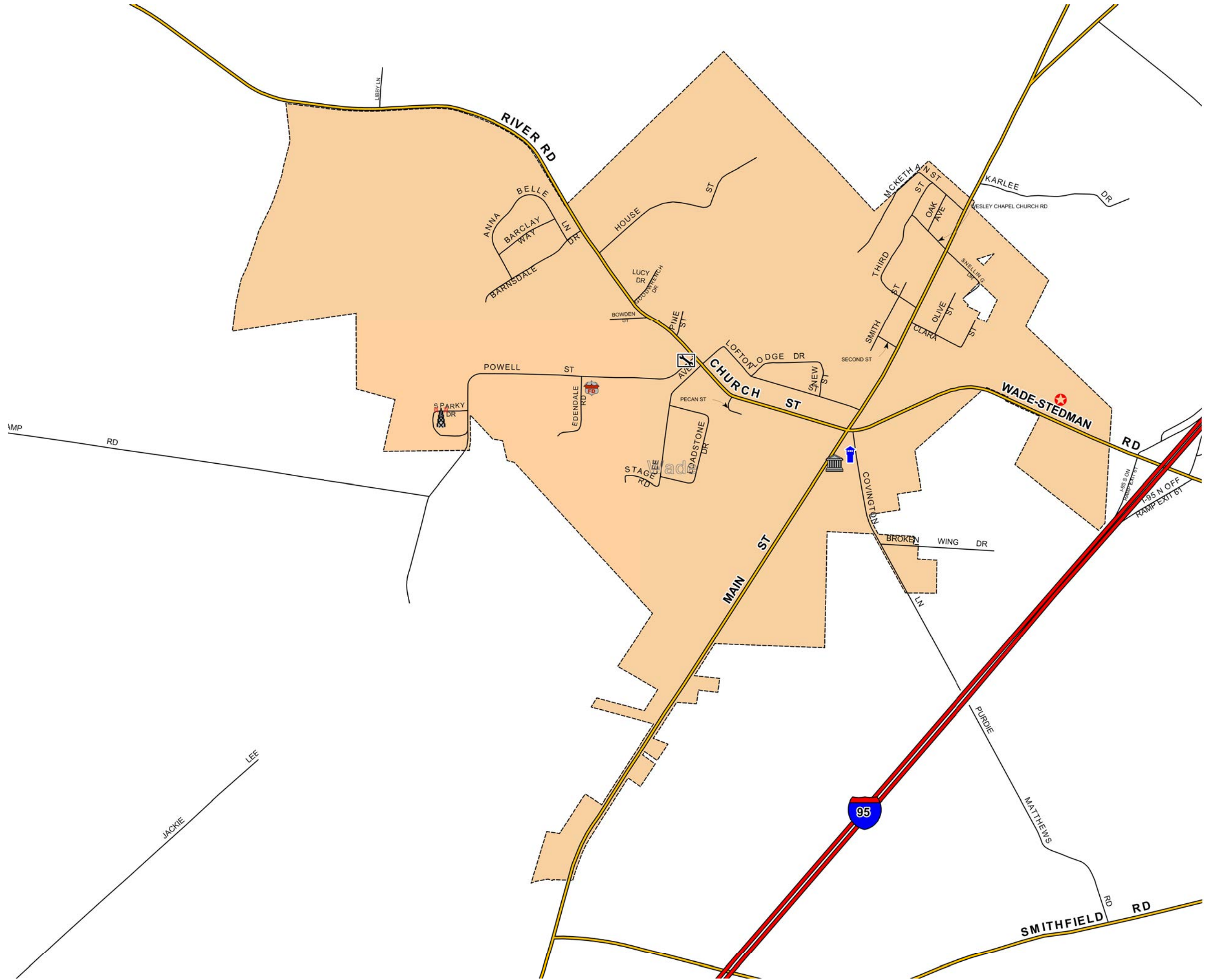
Hazard Type(s): Flood

Current Conditions				Potential Future Conditions (Projection Year 2025)		
Type of Development	Number of Existing Public Buildings and Critical facilities	* Current Value	Current Number of People	Projected Number of Public Buildings	Projected Value	Projected Number of People
Sewage Treatment Plants	0	\$ 0	0	0	\$0	0
Water Tower and Wells	0	\$0	0	0	\$0	0
Medical Center	0	\$0	0	0	\$0	0
Schools	0	\$0	0	0	\$ 0	0
Infrastructure (roads, bridges, drainage, dams, etc.)	Water Lines – 150' Streets – 280' Sewer Lines – 66'	\$13,500 \$52,920 \$9,900	N/A	Water Lines – 182' Streets – 340' Sewer Lines – 80'	\$16,377 \$64,196 \$12,009	N/A
Police Stations	0	\$ 0	0	0	\$0	0
Fire Stations	0	\$0	0	0	\$0	0
Hazard Materials Facilities	0	\$0	0	0	\$0	0
Government offices	0	\$0	0	0	\$0	0
Emergency Shelters	0	\$0	0	0	\$0	0
Utility Operations Center	0	\$0	0	0	\$0	0
Subtotal	Buildings - 0 Infrastructure	\$0 \$76,320	0	Buildings - 0 Infrastructure	\$0 \$92,582	0
TOTAL:	Buildings - 3 & Infrastructure	\$1,083,280	6	Buildings - 3 & Infrastructure	\$1,314,109	7

* Values and building counts from County GIS- January 2010
The methodology used in preparing this data is described in Appendix C.

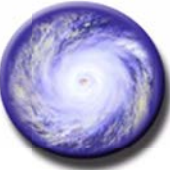
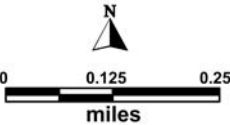
Map 34

**Town of
Wade
Critical Facilities**



Legend

- Cell Tower
- Water Tower
- Town Hall
- Fire Department
- Progress Energy Staging Area
- Town Maintenance Facility
- Municipal Boundary
- Streams-Rivers
- Lakes



Cumberland County
Multi-Jurisdictional
**HAZARD
MITIGATION
PLAN
Update**

Map 35

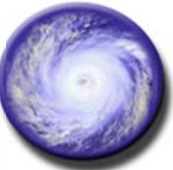
Town of Wade

Critical Facilities

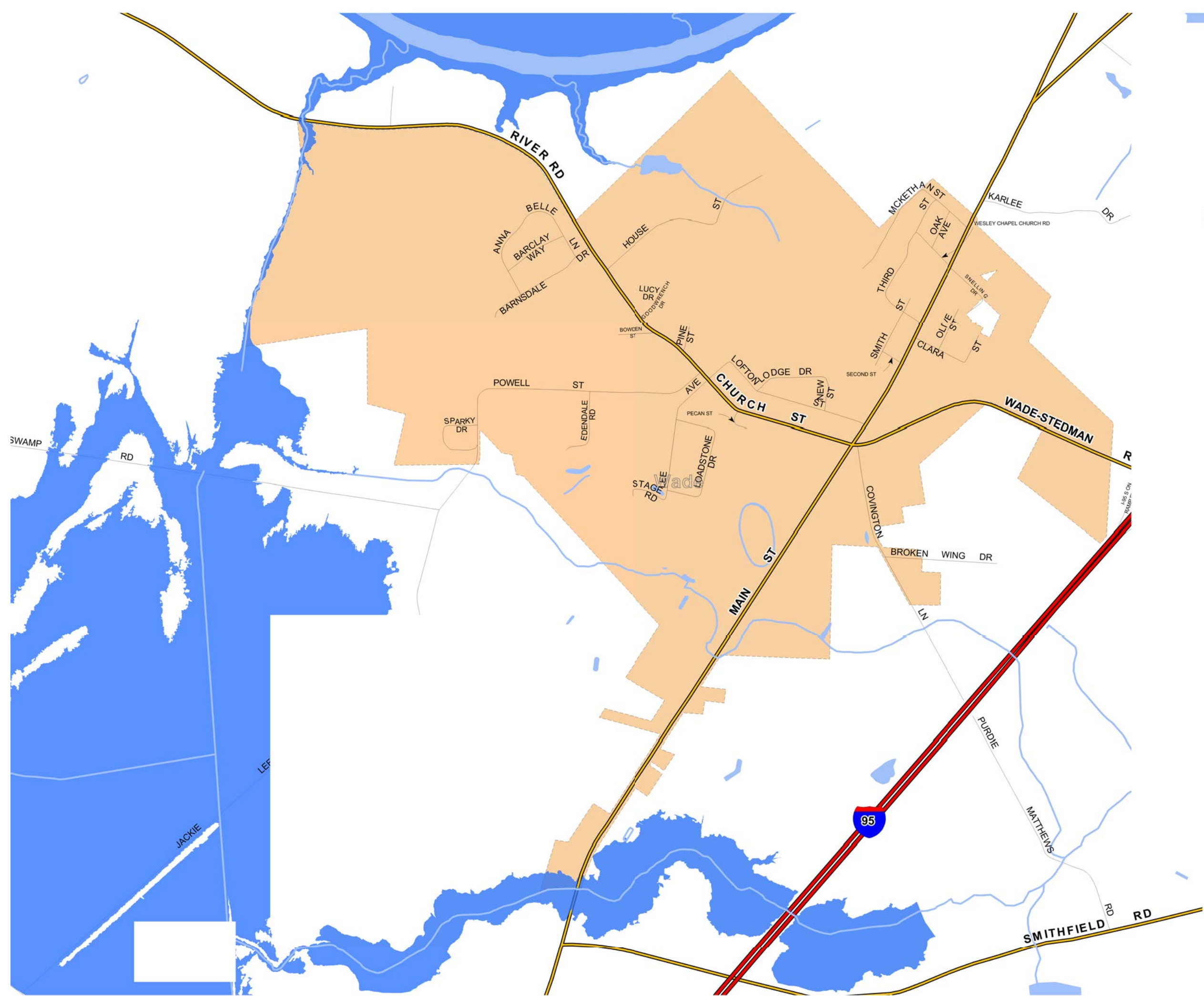
Special Flood Hazard Area

Legend

-  Special Flood Hazard Area
-  Municipal Boundary
-  Streams-Rivers
-  Lakes



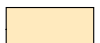













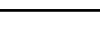


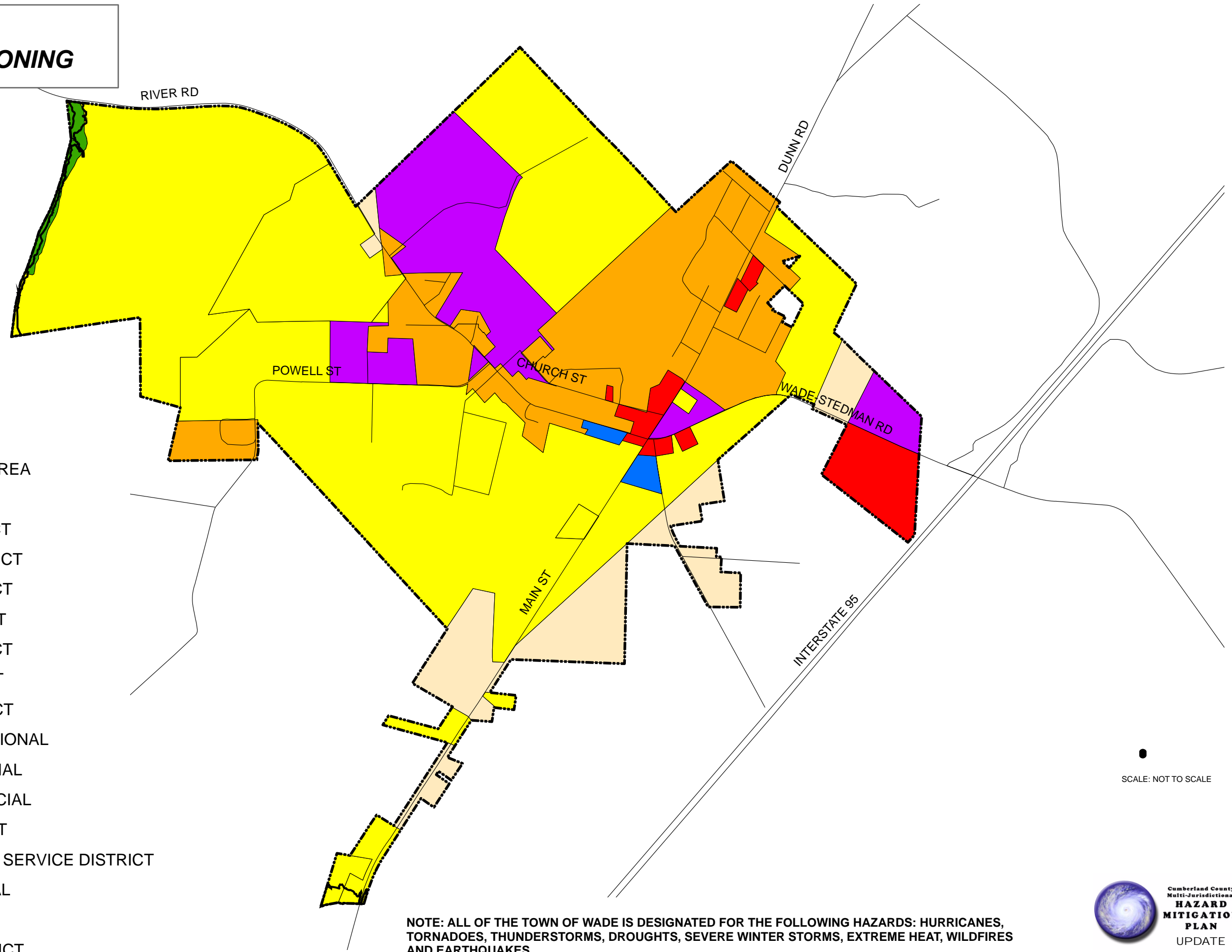
Cumberland County
Multi-Jurisdictional
**HAZARD
MITIGATION
PLAN
Update**



Map 36
TOWN OF WADE ZONING

Legend

-  SPECIAL FLOOD HAZARD AREA
-  MUNICIPAL BOUNDARY
-  A1 - AGRICULTURE DISTRICT
-  R40A - RESIDENTIAL DISTRICT
-  R30 - RESIDENTIAL DISTRICT
-  RR - RESIDENTIAL DISTRICT
-  R15 - RESIDENTIAL DISTRICT
-  R6 - RESIDENTIAL DISTRICT
-  R6A - REISIDENTIAL DISTRICT
-  O&I(P) - OFFICE & INSTITUTIONAL
-  C(P) - PLANNED COMMERCIAL
-  C1(P) - PLANNED COMMERCIAL
-  C3 - COMMERCIAL DISTRICT
-  HS(P) - PLANNED HIGHWAY SERVICE DISTRICT
-  M(P) - PLANNED INDUSTRIAL
-  M2 - INDUSTRIAL DISTRICT
-  CD - CONSERVANCY DISTRICT










NOTE: ALL OF THE TOWN OF WADE IS DESIGNATED FOR THE FOLLOWING HAZARDS: HURRICANES, TORNADOES, THUNDERSTORMS, DROUGHTS, SEVERE WINTER STORMS, EXTREME HEAT, WILDFIRES AND EARTHQUAKES.

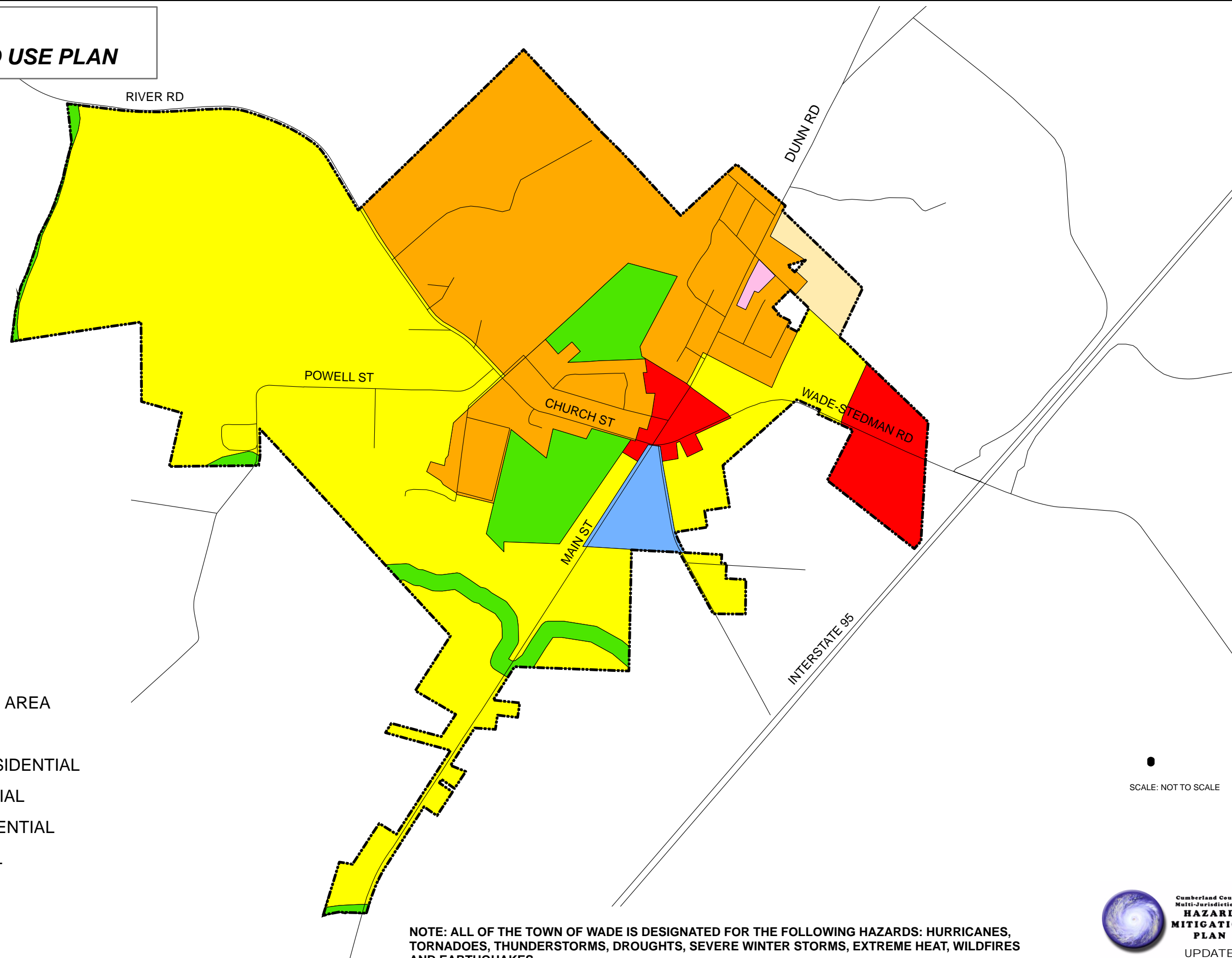
SCALE: NOT TO SCALE



Map 37
TOWN OF WADE LAND USE PLAN

Legend

-  SPECIAL FLOOD HAZARD AREA
-  MUNICIPAL BOUNDARY
-  SUBURBAN DENSITY RESIDENTIAL
-  LOW DENSITY RESIDENTIAL
-  MEDIUM DENSITY RESIDENTIAL
-  OFFICE & INSTITUTIONAL
-  PLANNED COMMERCIAL
-  LIGHT COMMERCIAL
-  OPEN SPACE



SCALE: NOT TO SCALE



NOTE: ALL OF THE TOWN OF WADE IS DESIGNATED FOR THE FOLLOWING HAZARDS: HURRICANES, TORNADOES, THUNDERSTORMS, DROUGHTS, SEVERE WINTER STORMS, EXTREME HEAT, WILDFIRES AND EARTHQUAKES.

CAPABILITY ASSESSMENT

Local Departments, Agencies and Organizations

The Town of Wade operates under the Mayor/Council form of government and employs a Town Clerk and a maintenance man. The Town provides administrative services, general maintenance, and the reading of water meters. Operation and maintenance of the water system is contracted with a local firm. The County Sheriff's Department, Cumberland County EMS and Fire Station # 16 Wade Volunteer Fire Department provide emergency services. Cumberland County Animal Control, Health, Mental Health, Social Services, and Solid Waste Departments provide public health and human services; The Fayetteville/Cumberland County Parks and Recreation Department provides maintenance assistance for the Town Park; Cumberland County Planning and Inspections provides planning services and enforcement of the State Building Code; County Engineering administers the Flood Damage Prevention Ordinance; the County Public Utilities Department administers the NORCRESS Sanitary District (Wade is a member); and the County Tax Administration Department collects applicable taxes, fees and assessments for the Town. There are numerous State and Local Agencies and Organizations that provide services relevant to hazard mitigation for Wade residents. A complete list was presented within the Cumberland County Capability Assessment above.

Policy and Program Capability

This section includes the identification and evaluation of existing ordinances, policies, and programs that are relevant to the Town of Wade's vulnerability to natural hazards. This inventory consists of specific mitigation initiatives, their effectiveness and strategies to improve mitigation effectiveness. Additionally, this information is contained within **Table 45 - Wade Inventory of Local Ordinances, Policies and Programs Relevant to Hazard Mitigation**.

Most of the actions in the original Mitigation Plan that require ordinance revisions or policy changes have been completed and/or adopted. The Planning Staff currently has an ongoing process of rewriting, updating (zoning and subdivisions) and creating new ordinances for several of the local jurisdictions, including Town of Wade. These ordinances already comply with many of the mitigation actions that the Town has already endorsed. Those actions that have not been completed are more developer resistance and cost prohibit. The Technical Committee will continue educating citizens, elected officials and the development community concerning our mitigation efforts and actions.

Wade Subdivision Ordinance - The Town of Wade Subdivision Ordinance contains several sections that are relevant to hazard mitigation. These sections address specific design standards that mitigate hazards such as: flooding, fire, and drainage.

Wade Zoning Ordinance - The Town of Wade adopted the Cumberland County Zoning Ordinance. This ordinance addresses hazard mitigation by protecting identifiable natural resources from urban encroachment by establishing the CD Conservancy District that allows a limited number of allowable land uses.

Cumberland County Water Supply Watershed Management and Protection Ordinance - The Water Supply Watershed Management and Protection Ordinance are designed to minimize the amount of stormwater runoff and to protect the public water quality within the Cape Fear River Watershed Area Class WS-IV and the Cross Creek Watershed Area Class WS-IV. In addition to portions of Cumberland County falling within the Watershed Areas, a portion of the Town of Spring Lake and a portion of the Town of Wade fall within the Watershed Area Class WS-IV. This Ordinance has been adopted by both jurisdictions.

Flood Damage Prevention Ordinance - Cumberland County has developed and adopted a Flood Damage Prevention Ordinance designed to minimize the public and private losses due to flood conditions in specific areas and to protect the public health, safety, and welfare. The Town of Wade adopted this ordinance, which establishes the requirements for elevation and flood proofing (non-residential) to base flood elevation and a development permit.

National Flood Insurance Program and Community Rating System - The National Flood Insurance Program (NFIP) provides flood insurance to individuals in local jurisdictions that are members of the Program. Membership in the Program is based upon the adoption and enforcement of floodplain management and development regulations. Compliance of the NFIP for the Unincorporated Area, Eastover, Falcon, Godwin, Linden, Stedman and Wade is responsibility of the Cumberland County Engineering Department. They maintain the Cumberland County flood maps and Flood Damage Prevention Ordinance and issue Floodplain Development Permits for those jurisdictions in accordance with compliance of NFIP. An element of the NFIP is the Community Rating System (CRS), which adjusts flood insurance premiums relative to a local jurisdiction's investment in flood damage mitigation. Inclusion in the CRS involves submitting a local jurisdiction's floodplain management procedures for evaluation.

NCDOT Subdivision Roads Minimum Construction Standards - The North Carolina Department of Transportation has established minimum construction standards for new subdivision roads (to be dedicated as public or private). According to North Carolina General Statutes, all new subdivision roads connecting to the State system must obtain a construction permit from a Division of Highways District Engineer and must meet these construction standards. Standards relevant to hazard mitigation include: surface and subsurface drainage, bridges, roadway dams, and specifications for design and construction to accommodate emergency vehicles.

2030 Cumberland County Growth Vision Plan Policies, Actions, and Map

Cumberland County, along with all the municipalities in the County adopted this land use plan which serves as a guide for development. This Plan contains several recommendations relevant to hazard mitigation. The Plan recommends the provision of open space/environmental corridors along rivers and major water features, which reduces the amount of development within and adjacent to the floodplain and protects the natural riparian cover adjacent to these water features. Recommendations also include using environmental corridors as a network of greenways connecting recreation and school facilities with natural areas. The Plan recommends all development activity within the Special Flood Hazard Area be limited to low intensity uses. Development standards are also recommended to reduce the amount of impervious surfaces and to protect existing natural features. A general Land Use Plan Map was also adopted, which provides a guide for orderly growth and development. Wade adopted the Plan on July 14, 2009.

Cumberland County Land Use Policies Plan

Wade, along with all the municipalities in the Cumberland County and Cumberland County have developed and adopted a land use policies plan which serves as a guide for development. This Plan contains location criteria for development relevant to hazard mitigation by limiting the type and intensity of development within the Special Flood Hazard Area. Wade adopted the Plan on July 14, 2009.

Wade Area Detailed Land Use Plan and Map - The Wade Area Detailed Land Use Plan addresses several issues relevant to hazard mitigation. These issues include: provision of open space/environmental corridors and buffers along water bodies protecting the natural drainage system from urban encroachment, provides an Action Plan suggesting creation of ordinances, development standards and a CIP addressing environmental protection and mitigation measures, a thoroughfare plan that provides for safe vehicular movement, and a plan for orderly growth and development. The Wade Board of Commissioners and the Cumberland County Board of Commissioners adopted the Plan, as a

portion of the Study falls within the Unincorporated Area of the County. Wade adopted the Plan on February 10, 2004.

Parks and Open Space Master Plan Town of Wade - This Plan provides a long-range guide, which includes the use of natural resource and open space areas in a manner that protects environmentally sensitive areas.

2000 International Building Code with North Carolina Amendments - This Code provides specific standards for plumbing, building, mechanical and electrical construction, mandated by the State of North Carolina. This Code is under the jurisdiction of the North Carolina Department of Insurance and is enforced locally by the Cumberland County Planning and Inspections Department.

N.C. General Statutes 113A Article 4 Sedimentation Pollution control Act - This Act provides a mechanism to protect existing natural resources and the public health, safety, and welfare through sedimentation and erosion control. The State of North Carolina administers permitting and enforcement measures for Cumberland County and the municipalities therein.

Mid-Carolina Rural Planning Organization - The Mid-Carolina Rural Planning Organization provides detailed planning and classifications for the road network within the Rural Planning Area in order to provide adequate traffic movement. Classifications and design specifications are assigned to roads in order to ensure adequate right-of-way and design as transportation improvements are initiated.

Cumberland County Emergency Operations Plan - Cumberland County prepared and adopted this Plan in order to reduce the vulnerability of people and property to a disaster and to provide an effective means of response in the event of a disaster. This Plan also includes an inventory of critical facilities that would be impacted during a disaster.

Sandhills Area Land Trust - The Sandhills Area Land Trust is a non-profit organization working with citizens, developers, local government, and landowners to preserve the natural resources and environment within the Sandhills. This organization is working with Cumberland County, as well as 6 other counties, to accept donations of land, arranges leases to protect special land holdings and works to negotiate conservation easements.

Cape Fear River Assembly - The Cape Fear River Assembly has a membership of approximately 400 and a 34-member Board of Directors representing 29 counties within the Cape Fear River Basin. The purpose of the Assembly is to provide the highest quality of life for residents within the Cape Fear River Basin through proper management of the Cape Fear River, its tributaries and adjacent land uses.

Sustainable Sandhills - This initiative, comprised of members of communities within 6 counties bordering Fort Bragg and Camp Mackall and the Military, is working to provide a model for regional sustainability planning. Sustainability planning focuses on balancing preservation of natural resources, economic development strategies, development, and Military operations. Cumberland County is represented within this initiative.

Joint Compatible Land Use Study 2003 - The purpose of this Study is to provide policies and implementation measures to mitigate conflicts between urban development and Military operations at Fort Bragg, Pope Air Force Base and Camp Mackall. Cumberland County is included within this Study.

Table 45 - Wade Inventory of Local Ordinances, Policies and Programs Relevant to Hazard Mitigation

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Town of Wade Subdivision Ordinance 3/12/97	Section 3.11	To provide for existing or future drainage needed to protect public health, safety and welfare.	MODERATE	This Ordinance establishes minimum development standards.	Establish detailed development standards.
Town of Wade Subdivision Ordinance 3/12/97	Section 3.13.1	To provide standards for park, recreation, open space areas to protect public health, safety, and welfare.	HIGH	This Ordinance provides specific design standards that address stormwater detention/retention facilities, landscape buffers and the 100-year flood elevation.	
Town of Wade Subdivision Ordinance 3/12/97	Section 3.16	To provide standards for lots located within areas of special flood hazard.	HIGH	This Ordinance provides specific standards that address lots subject to flooding.	
Town of Wade Subdivision Ordinance 3/12/97	Section 3.17	To provide standards for street design needed to protect the public health, safety, and welfare.	MODERATE	This Ordinance provides specific standards that address street design to accommodate fire and rescue vehicles.	Amend to require an additional entrance into developments, especially in special hazard areas, for rescue vehicle and evacuation routes.
Town of Wade Subdivision Ordinance 3/12/97	Section 3.20 & 3.21	To provide standards for adequate physical separation of buildings to protect the public health, safety, and welfare.	HIGH	This Ordinance provides specific standards that address building separation.	
Town of Wade Subdivision Ordinance 3/12/97	Table 1 Minimum Development Standards for Urban, Suburban and Rural Densities	To provide a development standard recommending underground utilities (except for high voltage electrical lines) for urban, suburban and rural residential development.	HIGH	This Ordinance provides a specific development standard that would reduce the impact of weather related disasters upon utilities.	

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Town of Wade Subdivision Ordinance 3/12/97	Section 4.1	To provide standards for street design needed to protect the public health, safety, and welfare.	HIGH	This Ordinance provides specific standards that address street design to accommodate fire and rescue vehicles.	
Town of Wade Subdivision Ordinance 3/12/97	Section 4.3	To provide standards for the construction of or improvements within a subdivision.	MODERATE	This Ordinance provides specific standards that address drainage during construction or improvements within a subdivision, underground utilities and installation of fire hydrants.	Amend to include standards to reduce the amount of impervious surfaces within a subdivision.
Town of Wade adopted the Cumberland County Zoning Ordinance Revised 06/20/05	Section 3.1	To preserve and protect identifiable natural resources from urban encroachment by establishing a limited number of allowable land uses.	HIGH	This Ordinance provides a specific list of permitted uses allowed within the CD Conservancy District. Additionally, the ordinance provides a list of specified conditional uses that may be approved by the Board of Adjustment.	
Town of Wade adopted the Cumberland County Zoning Ordinance Revised 5/26/96	Section 7.26, 7.3 and Section 7.31	To provide adequate separation of structures in order to protect the public water quality as well as public health, safety, and welfare.	HIGH	This Ordinance requires separate yard space for buildings, zoning district dimensional requirements and physical separation of mobile homes within a mobile home park.	
Water Supply Watershed Management & Protection Ordinance 12/20/93		To minimize the amount of stormwater runoff within Water Supply Watershed Areas and protect the public water quality as well as public health, safety, and welfare.	HIGH	This Ordinance requires a Watershed Protection Building Permit and Watershed Occupancy Permit.	

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Flood Damage Prevention Ordinance 08/10/06		To minimize the public and private losses due to flood conditions in specific areas and to protect the public health, safety, and welfare.	HIGH	This Ordinance outlines general standards required in all special flood hazard areas and specific development standards required in all special flood hazard areas where base flood elevation data has been provided. A floodplain development permit is required.	
National Flood Insurance Program 10/3/00		To provide flood insurance for individuals within jurisdictions having membership in the program. Membership is based upon having floodplain management and development regulations. Compliance to the NFIP is the responsibility of the Cumberland County Engineering Department.	HIGH	Member	
NCDOT Subdivision Roads Minimum Construction Standards 7/1/85	Minimum Design and Construction Criteria Section	To provide standards for the design, construction and maintenance of subdivision roads in order to protect the public health, safety, and welfare.	HIGH	This manual outlines specific design, construction and maintenance standards to mitigate potential flooding due to subdivision road construction.	

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
2030 Growth Vision Plan, Policies, and Actions 07/14/09	Page 37--38	To protect the Special Flood Hazard Area To reduce the amount of impervious surfaces	MODERATE	The Plan recommends all development activities in the Special Flood Hazard Area be limited to low intensity uses such as open space, recreation, and adequately buffered agricultural activities.	Amend the Cumberland County Subdivision Ordinance and adopt a Landscape ordinance and Development Standards.
Cumberland County Land Use Policies Plan	Page 28	To protect the Special floods Hazard Area	Moderate	The Plan recommends location criteria for development within the Special Flood Hazard Area	
Wade Area Detailed Land Use Plan 2/04	Page 45	To provide adequate public safety and emergency services to residents within the Study Area.	HIGH	This Plan provides specific recommendations to accomplish this goal.	
Wade Area Detailed Land Use Plan 2/04	Page 54	To provide multi-modal transportation to meet the needs of the residents within the Study Area.	HIGH	This Plan provides specific recommendations for vehicular, pedestrian and rail transportation designed to protect the public health, safety, and welfare.	
Wade Area Detailed Land Use Plan 2/04	Page 55	To provide open space/environmental corridors along rivers, streams, creeks, drainage ways, bluffs and other natural areas.	HIGH	This Plan recommends the provision of open space/environmental corridors along water bodies, which reduces the amount of development within and adjacent to the floodplain.	
Wade Area Detailed Land Use Plan 2/04	Page 64	To provide mechanisms for planning for hazard mitigation activities.	HIGH	This Plan provides an Action Plan that includes development of Ordinances, development standards, CIP, and environmental protection.	

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Wade Area Detailed Land Use Plan Map 2/04	Page 61	To provide an orderly guide for growth and development to protect the public health, safety, and welfare.	HIGH	The Plan provides a land use plan map to guide future development decisions.	
Parks and Open Space Master Plan Town of Wade 12/01		To provide a long-range Master Plan to provide guided recreation growth.	HIGH	This Plan provides recommendations for utilizing existing facilities, natural resources and open spaces in a manner that will protect environmentally sensitive areas, as well as provides a plan for acquisition of land for active and passive recreation facilities.	
2000 International Building Code with N.C. Amendments		To provide specific construction standards to protect the public health, safety, and welfare.	HIGH	This Code provides specific standards for plumbing, building, mechanical and electrical construction.	
N.C. General Statutes 113A Article 4 Sedimentation Pollution Control Act		To protect existing natural resources and the public health, safety, and welfare.	HIGH	This Act provides a mechanism for sedimentation and erosion control including permitting and enforcement measures.	
Cumberland County Emergency Operations Plan 11/07/07		To provide actions to reduce the vulnerability to a disaster and enhance the recovery from a disaster in order to protect the public health, safety, and welfare.	HIGH	This Plan provides actions to be taken to reduce the vulnerability of people and property to disaster establish an effective mechanism to respond in the event of a disaster and identifies critical facilities impacted during a disaster.	

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Sandhills Area Land Trust (SALT)		A non-profit organization working to preserve the natural beauty and environment of the Sandhills Region. Cumberland County is one of 7 counties working with SALT.	HIGH	This Organization works with citizens, developers, municipalities and landowners to retain the Region's unique environmental features and positively influence growth and development.	
Cape Fear River Assembly		To provide the highest quality of life within the Cape Fear River Basin.	HIGH	This Organization provides scientific study, economic analysis and education in order to make decisions regarding the proper management of the Cape Fear River, its tributaries and adjacent land uses.	
Sustainable Sandhills		To provide regional sustainability planning that preserves natural resources, enhances economic development and improves the quality of life for present and future generations.	HIGH	This Initiative, comprised of members of communities in 6 counties bordering Fort Bragg and Camp Mackall and the Military, is working to provide a cooperative effort to provide a model for regional sustainability planning.	
Joint Compatible Land Use Study 2003		To provide policies and implementation measures to mitigate conflicts between urban development and Military operations on a Regional basis.	MODERATE	This Study provides compatibility measures and land use policy recommendations that have not been adopted.	Adopt the Land Use Study.

Overall, the local ordinances, policies and programs relevant to hazard mitigation are highly effective in terms of hazard mitigation. Several ordinances should be revised to provide stricter development standards and include specific recommendations contained within the Cumberland County 2030 Growth Vision and the Wade Area Detailed Land Use Plan.

Review of these existing plans, policies, ordinances and programs has resulted in specific actions to create new ordinances (or revise existing ordinances) that would serve to reduce the hazard vulnerability of Wade. Land use, transportation, utility, recreation and capital improvement plans are designed to provide orderly growth and development without endangering the public health, safety and welfare. Preparation, review and revisions of these types of plans are a continuous process. Goals, Actions and information contained within this Hazard Mitigation Plan will be reviewed and incorporated into the planning process. Additionally, the five-year review of the Hazard Mitigation Plan will include an examination of existing plans, policies, ordinances and programs as part of the Capability Assessment as well as Mitigation Strategies.

Legal Capability

Local governments in North Carolina have been authorized by the State legislature to carry out four broad governmental powers: Regulation, Acquisition, Taxation and Spending. As mentioned previously, the Town of Wade relies upon Cumberland County for regulatory and taxation staffing functions. The following is a summary of North Carolina enabling legislation granting these broad governmental powers relevant to hazard mitigation.

Regulation

General Police Power

All local governments in North Carolina have been granted broad regulatory powers in their jurisdictions. North Carolina General Statutes [NCGS] bestow the general police power on local governments, allowing them to enact and enforce ordinances, which define, prohibit, regulate or abate acts, omissions, or conditions detrimental to the health, safety, and welfare of the people and to define and abate nuisances (including public health nuisances).

Hazard mitigation can be included under the police power to protect the public health, safety, and welfare, therefore municipalities may include requirements for hazard mitigation in local ordinances. Municipal governments may also use their power to abate nuisances, which could include by local definition, any activity or condition making people or property more vulnerable to any hazard [NCGS Chapter 160A, Article 8 Delegation and Exercise of the General Police Power to Cities and Towns].

Building Codes and Building Inspection

Counties and municipalities can engage in risk reduction measures focusing on strengthening building codes and requiring retrofitting of existing structures and facilities to protect the public health safety, and welfare in the event of a natural hazard.

North Carolina has a State mandatory building code, which applies throughout the State [NCGS 143-138 (c)]. However, local jurisdictions may adopt codes for their respective jurisdictions if approved by the State as providing “adequate minimum standards” [NCGS 143-138 (e)]. Local regulations cannot be less restrictive than the State code. Exempted from the State code are public utility facilities other than buildings; liquefied petroleum gas and liquid fertilizer installations, and farm buildings outside municipal jurisdictions. No State permit may be required for structures under \$20,000. (Note that exemptions apply only to State, not local permits).

The State legislature has also empowered Municipal governments to carry out building inspections. NCGS Chapter 160A, Article 19, Part 5 empower municipalities to create an Inspections Department, and enumerates its duties and responsibilities, which include enforcing State and local laws relating to

the construction of buildings, installation of plumbing, electrical, heating systems, etc; building maintenance; and other matters.

Land Use

Through various land use regulatory powers, granted by the State, local governments can control the amount, timing, density, and location of new development. These growth characteristics can determine the level of vulnerability of an area in the event of a natural hazard. Land use regulatory powers include the power to engage in planning, enact and enforce zoning, subdivision, floodplain, stormwater and watershed ordinances.

Zoning

Zoning is the most basic tool available to control the use of land. The North Carolina General Statutes 160A-381 gives broad enabling authority for and municipalities to use zoning as a planning tool. Counties may also regulate inside a municipal jurisdiction at the request of a municipality, as set forth in NCGS 160A-360(d). The statutory purpose for the grant of power is to promote the health, safety, or the general welfare of the community. Land “uses” controlled by zoning include the type of use, such as residential, commercial, industrial, as well as minimum specifications for use such as lot size, building height, setback, density, etc.

Municipal governments are authorized to divide their territorial jurisdiction into districts, and to regulate and restrict the erection, construction, reconstruction, alteration, repair or use of buildings, structures, or land within those districts [NCGS 160A-382]. Districts may include general use districts, overlay districts, and special use districts or conditional use districts. Zoning ordinances consist of maps and written text.

Comprehensive or Master Planning

Within North Carolina, local governments are required to create or designate a planning agency in order to exercise the regulatory powers related to land use [NCGS 160A-387; 153A-321]. The planning agency may: prepare studies for an area/neighborhood; determine objectives; prepare and adopt plans for achieving objectives; develop and recommend policies, ordinances and administrative means to implement plans; and perform other related duties [NCGS 160A-361; 153A- 321].

NCGS 160A-383 and 153A- 341, requires that zoning regulations be made in accordance with a comprehensive plan. While the ordinance itself may provide evidence that zoning is being conducted “in accordance with a plan,” the existence of a separate comprehensive planning document ensures that the government is developing regulations and ordinances that are consistent with the overall goals of the community.

Subdivision Regulation

Subdivision regulations control the division of land into parcels for the purpose of building a development or sale. Subdivision is defined as all divisions of a tract or parcel of land into two or more lots and all divisions involving a new street or a change in existing streets [NCGS 160A-376; 153A-335]. Flood-related subdivision controls typically require that developers install adequate drainage facilities and design water and sewer systems to minimize flood damage and contamination. They prohibit the subdivision of land subject to flooding unless flood hazards are overcome through filing or other measures, and they prohibit filling of floodway areas. Subdivision regulations require that subdivision plans be approved prior to the division of land. Subdivision regulation is limited in its ability to directly affect the type of use made of land or minimum specifications for structures.

Floodplain Regulation

The North Carolina legislature passed the “Act to Prevent Inappropriate Development in the One Hundred-Year Floodplain and to Reduce Flood Hazards” to regulate development within floodways [NCGS 143-214.51-214.61]. It serves as a risk reduction or risk elimination tool depending upon local government use. The purpose of this law is to minimize the extent of floods by preventing obstructions

that inhibit water flow and increase flood height and damage; prevent and minimize loss of life, injuries, property damage and other losses in flood hazard areas; and promote the public health, safety, and welfare of citizens.

The statute directs, rather than mandates, local government to designate a one hundred-year floodplain; adopt local ordinances to regulate uses in flood hazard areas; enforce those ordinances; and grant permits for use in flood hazard areas that are consistent with the ordinance. The statute established minimum standards for local ordinances and provides for variances for prohibited uses such as:

(a) A flood hazard prevention ordinance adopted by a county or city pursuant to this part shall, at a minimum:

1. Meet the requirements for participation in the National Flood Insurance Program and of this section.
2. Prohibit new solid waste disposal facilities, hazardous waste management facilities, salvage yards, and chemical storage facilities in the 100-year floodplain except as noted in section (b) below.
3. Provide that a structure or tank for chemical or fuel storage incidental to a use that is allowed under this section or to the operation of a water treatment facility may be located in a 100-year floodplain only if the structure or tank is either elevated above base flood elevation or designed to be watertight with walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.

(b) A flood hazard prevention ordinance may include a procedure for granting variances for uses prohibited under G.S. 143-215.54.

(c) A county or municipality shall notify the Secretary of Crime Control and Public Safety of its intention to grant a variance at least 30 days prior to granting the variance. A variance may be granted upon finding that all of the following apply:

1. The use serves a critical need in the community.
2. No feasible location exists for the location of the use outside the 100-year floodplain.
3. The lowest floor of any structure is elevated above the base flood elevation or is designed to be watertight with walls substantially impermeable to the passage of water and with structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.
4. The use complies with all other applicable laws and regulations.

Also, the statute ensures that local ordinances meet the minimum requirements of participation in the National Flood Insurance Program (NFIP), which will afford residents the ability to purchase flood insurance through the NFIP. Additionally, communities with such ordinances will be afforded priority in the consideration of applications for loans and grants from the Clean Water Revolving Loan and Grant Fund.

Acquisition

Municipalities can eliminate the risk of hazards through their power to acquire property, either in fee or lesser interest such as an easement. This removes the property from the private marketplace, thereby eliminating or reducing the possibility of inappropriate development. North Carolina legislation empowers municipalities to acquire property for public purpose by gift, grant, devise, bequest, exchange, purchase, lease or eminent domain [NCGS Chapter 160A Article 11].

Taxation

The power to levy taxes and special assessments has been delegated to municipalities by the North Carolina legislature [NCGS 160A Article 9]. This power allows municipalities to set preferential tax rates for areas unsuitable for development, such as wetlands, thereby discouraging development in hazardous areas. Local governments may also levy special assessments on property owners for all or part of the costs of acquiring, constructing, reconstructing, extending or otherwise building or improving beach erosion control, or flood and hurricane protection works within a designated area [NCGS 160A 238].

Spending

Counties and municipalities have been granted power to make expenditures in the public interest by the North Carolina General Assembly. An annual budget and a Capital Improvement Plan (CIP) can include hazard mitigation efforts. A CIP serves as a schedule for providing county or municipal services over a specified period of time. Committing to a timetable for the extension of facilities and services, local governments can effectively steer future growth and development and mitigate the impacts of natural hazards. The Town of Wade does prepare an annual budget, but does not have a CIP.

Fiscal Capability

The North Carolina General Assembly has empowered municipalities to make expenditures in the public interest [NCGS 160A 475]. The primary source for funding these expenditures comes from property taxes. These revenues generally finance critical services available and delivered on a daily basis. Examples of these services include: public utilities, solid waste management, emergency services, health and social services, and schools. The Town of Wade does not have available funds to support special projects such as hazard mitigation activities. Wade looks to the following sources for hazard mitigation funding:

Government Funding

Federal and State funds are available to local governments for the development and implementation of hazard mitigation plans. These sources are listed below.

Federal Funding

Hazard Mitigation Grant Program (HMGP) - This program provides funding for hazard mitigation measures following a Presidential disaster declaration. Even though the Federal government supplies the majority of the funds for this program, the program is administered on the State level. HMGP funds can be used for projects such as acquisition or relocation, retrofitting, development of local mitigation standards and comprehensive mitigation plans, structural hazard control and the purchase of equipment to improve preparedness and response.

Pre Disaster Mitigation Program Grants (PDM) - Pre Disaster Mitigation Program provides funding to States and local jurisdictions for cost-effective hazard mitigation actions. FEMA provides PDM grants to States, that in turn, provide sub-grants to local governments for mitigation activities such as planning and the implementation of projects identified through the evaluation of natural and man-made hazards.

Flood Mitigation Assistance Programs - This program (FMAP) furnishes mitigation assistance to States, local jurisdictions and individuals to reduce or eliminate the long-term risk of flood damage to the built environment and real property. FMAP is available on an annual basis and eligibility is based upon a jurisdiction participating in the National Flood Insurance Program and developing a mitigation plan. These funds may be used for elevation and/or dry flood proofing of structures, acquisition of real property, relocation or demolition of structures, as well as other minor structural projects.

National Flood Insurance Program - Participation in this risk-sharing program requires jurisdictions to adopt and enforce floodplain management ordinances designed to reduce future losses.

Buy-Out Programs - Funding is available to buy back floodplains, relocate residents, and demolish structures in order to eliminate or reduce payouts for recurring flood damage.

Earthquake Hazard Reduction Grants - These funds are available to States having a moderate or high risk of seismic activity.

Community Development Block Grants - The Community Development Block Grant (CDBG) is designed to assist counties and municipalities in rehabilitating substandard dwelling units and to expand economic opportunities, primarily for low-to-moderate income families. Additionally, as a result of a Presidential declared disaster, CDBG funds may be used for long-term needs such as acquisition, reconstruction, and redevelopment of disaster-affected areas.

Small Business Administration (SBA) Pre-Disaster Mitigation Loan Program - The purpose of this program is to make low-interest, fixed-rate loans to eligible small businesses for the purpose of implementing mitigation measures to protect business property from damage that may be caused by future disasters. The program is a pilot program, which supports the Federal Emergency Management Agency (FEMA) Pre-Disaster Mitigation Program.

Ability to Pay - The North Carolina Department of Commerce has ranked the 100 counties in an economic tier system due to the Lee Quality Jobs and Business Expansion Act of 1966, which provides for a sliding scale of State tax credits for economic investment. This Act has become North Carolina's primary development tool in an effort to assist smaller rural counties become economically competitive. The most economically depressed counties are ranked in Tier 1 and the most economically prosperous are ranked in Tier 5. These rankings are evaluated annually based on (1) population growth, (2) unemployment rate, and (3) per capita income.

The tier ranking is widely used by the State as a measure of an individual county's ability to pay when applying for State and Federal grants. Cumberland County is ranked as a Tier 4 County.

Non-Government Funding

Another potential source of revenue for local mitigation efforts are the contribution of non-governmental organizations, such as churches, charities community relief funds, the American Red Cross, hospitals, for-profit businesses and non-profit organizations, such as nature conservancy and land trust organizations.

Technical Capability

The Town of Wade has limited resources for technical staff. The Town relies on the following technical sources:

State and Federal Technical Assistance

Agencies such as the Federal Emergency Management Agency (FEMA) and the North Carolina Division of Emergency Management (NCDEM) have made available numerous implementation manuals and other resource documents. These manuals provide information on mitigation techniques for various hazards, including hurricanes, floods, wildfires, tornadoes and earthquakes. Additionally, they provide technical information on engineering principles, construction methods, costs and suggestions for how techniques can be financed and implemented. Federal agencies such as the U.S. Army Corps of Engineers and Soil Conservation Service also provide similar services.

Statewide Floodplain Mapping Initiative

The State of North Carolina, through the Federal Emergency Management Agency's Cooperating Technical Community partnership initiative, has been designated as a Cooperating Technical State (CTS). As a CTS, the State will assume primary ownership and responsibility for Flood Insurance Rate

Maps (FIRM) for all North Carolina communities. This project included conducting flood hazard analysis and producing updated digital FIRM maps.

The State has acquired raw elevation data for the six eastern river basins, Cape Fear, Lumber, Neuse, Pasquotank, Tar-Pamlico, and White Oak, which will be used to develop Digital Elevation Models (DEMs) update flood hazard data. The updated flood hazard data provides current, accurate information for local jurisdictions and property owners to make sound site planning and design decisions when building new structures and infrastructure and retrofitting existing structures.

Local Technical Assistance

Cumberland County has a geographic information system (GIS) that provides essential information and technology for hazard response and mitigation. The GIS system provides detailed data on property ownership, land use type and location, values of property and structures, location of the Special Flood Hazard Area and other infrastructure.

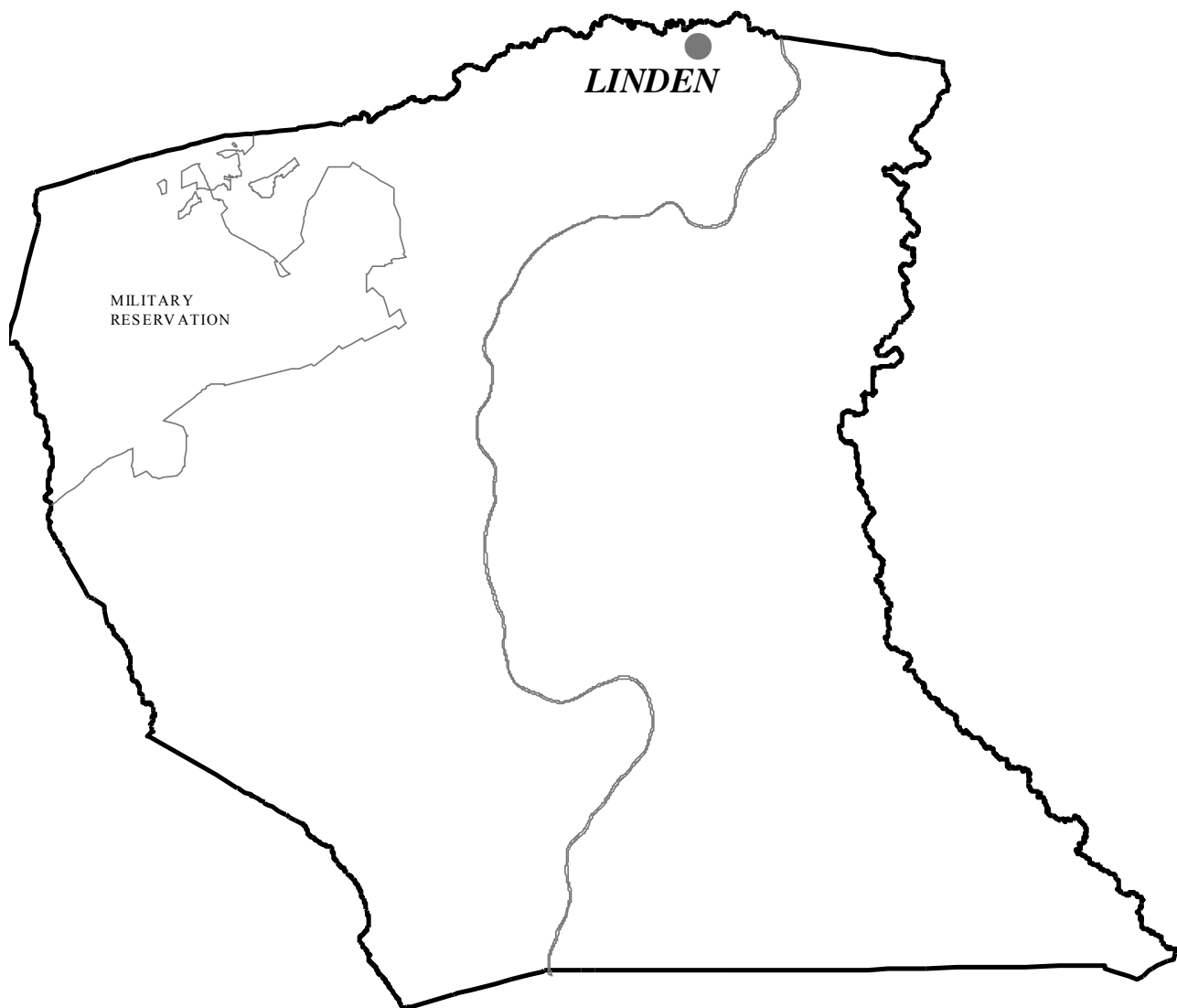
This system provides quick access and processing of detailed data that can be used to assist in deployment of resources, before, during and after a natural disaster, as well assists in planning for the mitigation of future disasters.

As previously mentioned in the Unincorporated Area Hazard Mitigation Plan Section entitled Local Departments, Agencies and Organizations, Wade has access to a responsive and highly trained staff who are capable of implementing mitigation strategies, as well as educating the public about potential hazards and the process necessary to mitigate these hazards.

Political Capability

The Wade Town Board of Commissioners is knowledgeable of the potential hazards faced by their respective jurisdictions, as well as past history of hazard events and recovery efforts. Additionally, the Cumberland County Joint Planning Board (serving Wade) is aware of the importance of hazard mitigation planning. Due to this knowledge and understanding, the current and future political climates are expected to be favorable for supporting hazard mitigation strategies.

TOWN OF LINDEN HAZARD MITIGATION PLAN



TOWN OF LINDEN HAZARD MITIGATION PLAN

COMMUNITY PROFILE

The Town of Linden is located in the Northern portion of the County near the Harnett County Line. It is primarily a rural residential community of 143 persons according to the North Carolina Office of Management and Budget and is approximately 0.48 square miles in size. The civilian employment profile for the Town includes private industry, retail trade and government as significant categories. A Mayor/Council form of government, with 5 commissioners and a mayor govern Linden. Additionally, the Town employs a Clerk.

IDENTIFYING AND PROFILING HAZARDS

For this update the Technical Committee reviewed **Table A1 – Hazard Identification and Analysis and Table A2 – Summary by Hazard Vulnerability by Jurisdiction**. The Technical Committee determined the following hazards still could affect Linden: hurricane, drought, thunderstorms, severe winter storms, tornadoes, extreme heat, wildfires, and earthquakes. Additionally, the Technical Committee focused on localized flooding since it is associated with and caused by other types of hazards, such as thunderstorms, hurricanes and tornadoes. During the period between January 1950 and June 2010, Linden has experienced eight hurricanes, 3 thunderstorms, one drought, 15 winter storms, and two extreme heat events per NOAA history profile of Local Storm Events. It is highly likely that thunderstorms and extreme heat events will occur in the future. Additionally, it is likely that Linden will experience hurricanes, tornadoes, droughts, wildfires, and severe winter storms. Localized flooding and earthquakes are possible. Flooding, flash floods, hailstorms, wildfires, tornadoes, and earthquakes have not been documented within the Town. Detailed information on each hazard type and their profile are contained in Appendix A.

MITIGATION STRATEGIES

Town of Linden has developed the following three (3) goals for the purposes of this Mitigation Plan. These goals serve as a basis for a more specific plan of action. The following goals are broad policy Statements aimed at guiding and directing future activity so that persons, property, government, and infrastructure are protected from the impacts of the natural hazards that affect Town of Linden.

GOAL #1

Reduce vulnerability of Cumberland County and its municipalities to all natural hazards for existing development, future development, redevelopment and infrastructure.

GOAL #2

Identify and protect all properties/natural resources that are at risk of damage due to a hazard and to undertake cost-effective mitigation measures to minimize losses.

GOAL #3

Improve public awareness, education and outreach programs for the natural hazards that Cumberland County and its municipalities are most likely to experience.

Within the following pages, mitigation actions for the Town of Linden are listed and will identify the following information for each action:

- Hazard targeted – *Hazard the action is targeted to mitigate.*
- Goals addressed – *Goal(s) the action will address.*
- Document reference – *Ordinance(s), Policies or Programs that the action references, if any.*
- Whether it would be a new policy or continuation or an amendment to an existing policy
- Priority – *Each action ranked in terms of overall importance (high, moderate or low). Priorities were based upon the following criteria: cost-benefit, hazard identification and profile, vulnerability and capability assessments, and mitigation goals.*
- Funding sources – *List of funding source or potential funding source*
- How the action will mitigate the hazard
- How the action will reduce overall vulnerability
- Will the action be:
 - Cost effective – *Is a measure of how well the cost achieves the intended action.*
 - Environmentally Sound – *Is a determination if technology exists within the financial means of the jurisdictions that can achieve an action.*
 - Technically feasible *The actions has minimal or no harm to nature or the environment.*
- On-going, Short-term or Long-term Implementation - *On-going actions are those that currently exist and should be continued. Short-term actions are those that can be implemented within existing resources and should be accomplished within a time frame of six (6) months to two (2) years. Long-term actions will take additional resources or authorities and should be organized to begin implementation within a time frame of 3-5 years.*
- Person(s) or department responsible for the action – *Person(s) or Department(s) responsible for implementing the action.*
- Benchmark and indicator of progress – *Explains what needs to be accomplishment to meet this action.*
- Update – *Explains what has or has not been done to this action.*

The Hazard Mitigation Technical Committee looked at all the actions from the original Plan and the Updated Plan and considered the jurisdiction's cost of the action to be taken and their cost if no action is taken. In most cases it was determined that it was far less costly for the jurisdictions to take preventive action whenever possible than wait until a hazard occurred, therefore most of the actions taken are more preventive in nature. Most of the jurisdictions have limited financial resources to establish capital projects that address existing facilities vulnerable to the various hazards, such as relocating, removing, purchasing vulnerable properties; providing public water, or placing electrical lines underground. The Hazard Mitigation Technical Committee determined that flooding was the most likely hazard to occur based on past records. Most of the past damage occurred on properties located in the Special Flood Hazard Area. Many of these properties are aged and through attrition and general decay will eventually be removed from the hazardous area. Preventive measures will keep new structures from being built in these areas.

ACTION 1: *Develop A Subdivision Ordinance For The Town.*

Hazard Targeted	Multi-hazard (Flooding, Hurricanes, Tornadoes, Thunderstorms, Winter Storms and Wildfires)
Goals Addressed	1; 2
Document Reference, if applicable	Not applicable
New, Continuation, Amendment	Completed
Priority	High
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Help regulate different types of development and establishes certain design criteria that will reduce the impact of natural hazards.
Reduce Overall Vulnerability	Reduce the vulnerability to a natural hazard.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Short-term
Person(s) or Department Responsible	Cumberland County Planning Department
Benchmark and Indicator Of Progress	The Town adopted a subdivision ordinance on October 20, 2009

ACTION 2: *Develop A Zoning Ordinance For The Town.*

Hazard Targeted	Multi-hazard (Flooding, Hurricanes, Tornadoes, Thunderstorms, Winter Storms and Wildfires)
Goals Addressed	1; 2
Document Reference, if applicable	Not applicable
New, Continuation, Amendment	Continuation
Priority	High
Funding	Not Applicable

How the Action Will:

Mitigate the Hazard	Help protect the health, safety, and welfare of its citizens.
Reduce Overall Vulnerability	Reduce the vulnerability to a natural hazard.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Short-term
Person(s) or Department Responsible	Cumberland County Planning Department
Benchmark and Indicator Of Progress	The Town has established a committee that is currently reviewing a proposed zoning ordinance for the Town.

ACTION 3: *Develop Uniform Flood Damage Prevention Ordinance.*

Hazard Targeted	Flood
Goals Addressed	1
Document Reference, if applicable	Cumberland County, Fayetteville, Hope Mill, and Spring Lake Flood Damage Prevention Ordinances
New, Continuation, Amendment	Deletion of this action.
Priority	Medium
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Reduce the impact of new developments within special flood areas, thus reducing the amount of losses during a hazard event and maintains compliance with NFIP.
Reduce Overall Vulnerability	Limiting development within the flood hazard areas would reduce the losses during a hazard event.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Long-term
Person(s) or Department Responsible	Cumberland County Engineering Department
Benchmark and Indicator Of Progress	The Town of Linden adopted the revised <u>Cumberland County Flood Damage Prevention Ordinance</u> and new FIRM on October 17, 2006. The new digital firm map adopted by the Town indicates there is no Special Flood Hazard Area within its Town Limits. Also continues compliance with NFIP. See Unincorporated Area Action #6 for further explanation for the deletion of this action.

ACTION 4: *Develop A Program To Ensure Drainage Ways, Culverts And Storm Drains Are Free Of Debris.*

Hazard Targeted	Flood
Goals Addressed	1; 2
Document Reference, if applicable	
New, Continuation, Amendment	Continuation
Priority	High
Funding	Stormwater Fund

How the Action Will:

Mitigate the Hazard	Regular maintenance of debris from drainage ways, culverts and storm drains would provide the proper flow of water and reduce flooding.
Reduce Overall Vulnerability	Reduce vulnerability of flooding to streets, structures, and land located along drainage ways, culverts and storm drains.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Long-term
Person(s) or Department Responsible	Cumberland County Engineering Department
Benchmark and Indicator Of Progress	The Town of Linden ensures that the drainageways, culverts and storm drains are free of debris on Town streets and property. The NC Department of Transportation maintains streets that are a part of the State Road system.

ACTION 5: *Identify Areas That Are Susceptible To Wildfires And Consider Prescribed Fire (Controlled Burning) Management Tool To Reduce The Impact Of Wildfire Hazards.*

Hazard Targeted	Wildfires
Goals Addressed	1; 2
Document Reference, if applicable	Not applicable
New, Continuation, Amendment	Deferred
Priority	High
Funding	Not applicable

How the Action Will:

Mitigate the Hazard	Provide a mechanism to limit the amount of damage to those areas susceptible to wildfires. This is very important to the small rural municipalities because most of the land surrounding the Towns is undeveloped, woodlands, and farmland.
Reduce Overall Vulnerability	Reduce the amount of woodland that is lost to wildfires.

Will the Action Be:

Cost Effective	Yes
Environmentally Sound	Yes
Technically Feasible	Yes

On-going, Short-term, Long-term Implementation	Long-term
Person(s) or Department Responsible	NC Forest Service
Benchmark and Indicator Of Progress	Currently the Cumberland County office of Forest Service has developed a draft risk assessment of those areas of Cumberland County (including Town of Linden) that are susceptible to wildfires. This risk assessment is general in nature and for in office use only. The NC Forest Service has completed five Community Wildfire Protection Plans for certain areas of Cumberland County.

IMPLEMENTATION

Plan implementation will start from the time that it is adopted. The Mayor of Linden will be responsible for pursuing the development of policies, programs, ordinances, amendments, and regulations as they are assigned by the actions listed above. The Cumberland County Joint Planning Board staff will prepare these planning documents, ensuring that the goals, objectives and strategies of these documents will be consistent with the Hazard Mitigation Plan and would not increase the hazard vulnerability or decrease hazard capability of Linden. The Cumberland County Joint Planning Board (also serving on the Cumberland County Hazard Mitigation Steering Committee) would receive all planning documents for review and approval. Their comments are forwarded to the Linden Board of Commissioners for review and adoption. The public will be given the opportunity to provide input at public hearings before these entities. It will be the responsibility of the Town Clerk to ensure that these actions are carried out within their time frame.

MONITORING, EVALUATING, AND REPORTING PROGRESS

Periodic monitoring and reporting of the Linden Area Hazard Mitigation Plan of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update is required to ensure that the goals and objectives for Town of Linden are kept current and that local mitigation efforts are being carried out. The monitoring and reporting is to supplement the Plan within the five-year cycle. The Cumberland County Emergency Services Department will act as the contact and clearing house for relevant information.

The Plan shall be reviewed annually, unless a situation occurs making it necessary to review sooner (e.g. natural disasters). Town of Linden shall request that the Cumberland County Joint Planning Board include this annual review in the Board's Work Program. The review will be coordinated with The Cumberland County Emergency Services Department. Then the report will be forwarded to the Linden Board of Commissioners for review and adoption. The public will be given the opportunity to provide input on the Plan at public hearings before the Cumberland County Joint Planning Board and the Linden Board of Commissioners.

The annual report will include the following:

1. An evaluation of the effectiveness and appropriateness of the mitigation actions proposed in the Plan.
2. A list of problems that have occurred in the implementation process.
3. Changes in Linden's priorities.
4. Recommendations for changes, revisions, or amendments to the Plan.

The following questions will be helpful to the Town of Linden in assessing their Hazard Mitigation Plan: (1) Do the goals and objectives address current and expected conditions; (2) Has the nature or magnitude of risks changed; (3) Are the current resources appropriate for implementing the Plan; (4) Are there implementation problems, such as technical, political, legal or coordination issues with other agencies/departments; (5) Have the outcomes occurred as expected; and (6) Did the agencies/departments and other partners participate in the Plan and planning process as proposed.

REVISIONS AND UPDATES

As updates occur, the date, reason and responsible party should be noted. Updates or revisions, which affect the Plan as a whole and impact any other jurisdiction(s) will require the approval of those jurisdiction(s) governing body.

At the end of every five-year cycle, the Hazard Mitigation Technical Committee will submit the hazard profile, vulnerability assessment and local capability assessment updates or revisions to FEMA and NCDEM for review. Increased development, increased exposure to certain hazards, the development of new mitigation capabilities or techniques and changes to Federal or State legislation are examples of changes that may affect the condition of the Plan. The updated Plan will be reviewed by the Cumberland County Joint Planning Board and its recommendation forwarded to the Linden Board of Commissioners for consideration and adoption. Copies of any revision, amendment or update to the Plan must be filed with the Linden Town Clerk, the Cumberland County Emergency Services Department, and added to the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update and will be available to the public for review.

Resolution

WHEREAS, the Town of Linden desires to remain eligible for the State and Federal disaster relief funds in the event of a declared disaster in the Town; and

WHEREAS, the Linden Board of Commissioners recognizes the value of having a Plan in place for identifying, prioritizing, and mitigating potential and real hazards that could affect the Town of Linden; and

WHEREAS, the Cumberland County Joint Planning Board Staff has prepared the Linden Hazard Mitigation Plan Update as part of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update and has revised the Plan as suggested by the North Carolina Division of Emergency Management after its submittal to all appropriate government entities for review and comments; and

WHEREAS, the North Carolina Division of Emergency Management has endorsed the Linden Hazard Mitigation Plan as part of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update; and

NOW, THEREFORE, BE IT RESOLVED that the Linden Board of Commissioners adopts the Linden Hazard Mitigation Plan as part of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update; and

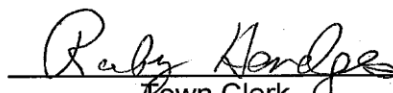
BE IT FURTHER RESOLVED that the Linden Board of Commissioners resolve to annually review the Plan and make revisions to all sections regarding the Town of Linden in the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update when new data and information becomes available, as mitigation measures are achieved, and as mitigation strategies evolve; and

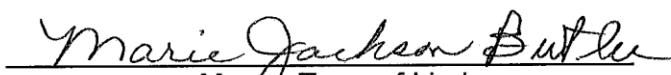
FURTHER, that Town of Linden may update and revise the Linden Hazard Mitigation Plan as it relates to Linden. If any revision, update or amendment that involves another jurisdiction, the updates and revisions must be approved by governing body of the affected jurisdiction(s). Copies of any revision, amendment or update to the Linden Hazard Mitigation Plan by the Town of Linden must be kept on file with the Linden Town Clerk, with the Cumberland County Emergency Services Department, and added to the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update; and

FURTHER, that administrative changes, wording corrections, the hazard analysis, and vulnerability assessment or other such portions of the Linden Hazard Mitigation Plan as part of the Cumberland County Multi-Jurisdictional Hazard Mitigation Plan Update, do not require additional action by the Linden Board of Commissioners.

Adopted 16th day of August, 2011

Attest:


Town Clerk


Mayor, Town of Linden

VULNERABILITY ASSESSMENT

A vulnerability assessment of the population and facilities in the Town of Linden considered the type and location of development, the infrastructure, and public buildings. The entire Town of Linden has experienced some of the same hazards as the overall count (see Identifying and Profiling Hazards above, and Vulnerability Assessment of the overall County Section). The types of hazards and the areas they impact, relative to the Town of Linden, are delineated in **Table A1 - Hazard Identification and Analysis** and **Table A2 - Summary of Hazard Vulnerability by Jurisdiction** located in Appendix A - Hazard Profile.

Current Conditions

Information compiled for the Town of Linden through GIS, tax records, land use studies, past records, and data from other Federal, State and local agencies shows vulnerable facilities and special populations. Current conditions of this development and facilities are shown in **Table 46 - Linden Private Buildings Vulnerability Assessment**. Private development in the Town comprises 56 single-family dwellings valued at \$13,397,558 accommodating 149 persons; 8 commercial structures valued at \$1,446,462 that impact 20 persons. A summary of private development in Linden shows that there are 71 structures with an approximate value of \$20,988,400 impacting 177 persons.

The critical facilities identified are listed in Appendix B – Critical Facilities Ranking. Public buildings and critical facilities in the Town include infrastructure (such as streets, bridges and water lines), a fire station, and government offices as shown on **Map 38 - Linden Critical Facilities Location**. Infrastructure that could be impacted includes 16,808 feet of water lines with a value of \$924,440 and 16,015 feet of streets valued at \$3,026,835. Other public buildings and critical facilities include a fire station valued at \$927,620 that impact 20 persons and one government office (Town Hall) valued at \$338,070 impacting two person. There are a total of two public buildings and critical facilities, 32,817 feet of streets and water lines with a value of \$3,951,275 impacting 22 people as shown in **Table 47 - Linden Public Buildings and Critical Facilities Vulnerability Data**.

A summary of all private and public buildings and critical facilities in Linden subject to natural hazards shows 63 buildings and critical facilities and 32,823 feet of streets and water lines valued at \$26,205,365 impacting 199 persons.

Flooding is not listed as a natural hazard because there are no designated special flood hazard areas in the Town. A considerable portion of the Town is used for farming purposes. The Town is situated on a broad river terrace, which parallels the Cape Fear River. The terrace slopes gently upward and westward from the Cape Fear River. The eastern boundary of the terrace is the bluff overlooking the Cape Fear River. The western boundary of the terrace is approximately six miles west of the River where the Sandhills Region begins. Linden is located in the middle of the terrace about two and half miles west of the River. The river terrace area has historically functioned as an important farming area due to the level topography and productive soils found in the area. Most of the undeveloped prime farmland in Cumberland County is concentrated in the river terrace area. Drainage in the Town is mostly northward to the Little River, which drains into the Cape Fear River. The extreme southeastern portion of the Town drains southward to a swamp. Years ago, a canal was dug to drain the entire Town's water north to the Little River. This canal has since eroded and debris has impacted its effectiveness. Other than this canal, there are no other surface water features (streams, creeks, lakes, etc.) in the Town. The construction of the B. Everett Jordan Dam upstream on the Cape Fear River has decreased the threat of flooding in the Town. Currently, Linden has participated in the FIRM Program and National Flood Insurance Program since March 6, 2001.

Vulnerable Populations

Vulnerable population data was taken from the profile of General Demographic Characteristics of Linden in the 2000 Census. Vulnerable population is defined as the elderly (75 years of age and older), institutionalized persons, disabled persons, persons with a language barrier, persons below the poverty level, persons without a vehicle or telephone in their home, those living in certain mobile homes, and renters. Linden has nine individuals over 75 years of age, no institutionalized persons, 27 persons on disability, no persons that has a language barrier, three families below the poverty level, six households without access to a vehicle, two households without a telephone, seven families living in mobile homes, and six families living in rented units. There are no persons living in flood areas due to the lack of designated Special Flood Hazard areas. Since the 2010 Census data was not available during the preparation of this document, we have kept the Census 2000 data in the document. If this data comes available during the review process, we will update the final document with the 2010 data.

Development Trends and Projections

Development trends that may impact hazard mitigation include the direction of growth, current zoning and future land use. The Town has public water from the Harnett County Water System. Future plan include the provision of sewer in the area by forming a sanitary sewer district with the County. The completion of the Fayetteville Outer Loop will impact the Town by the anticipated growth in north Fayetteville and the spillover effects of this growth. These factors will enhance the attractiveness of the Town for development.

Linden is not zoned but does have subdivision regulations, and there is an effort by the Town Board to undertake getting the Town zoned. A detailed land use for Linden (called the North Central Cumberland Land Use Plan) is in the process of being completed by the Cumberland County Joint Planning Board (which provides planning services to the Town). The anticipated adoption date of this Plan by the Town is February 2011. The Town has adopted the Cumberland County 2030 Growth Vision Plan. The proposed future land uses are as shown on Map **39 - Proposed Linden Land Use Plan Map**. This Plan indicates the entire Town as a Community Growth Area. Community Growth areas may be developed at a variety of development densities and land use types to meet the housing, everyday shopping and employment needs of the area residents.

Projections for private buildings in Linden for 2025 shows that there will be 68 single family dwellings, valued at \$16,252,236 impacting 181 persons, 10 commercial buildings valued at \$1,754,666 impacting 24 persons, and 7 other buildings valued at \$6,144,380 impacting 8 persons. In summary, the number of private buildings in Linden subject to a natural hazard in 2025 is projected to be 86 buildings with an estimated value of \$25,460,493 impacting 215 persons (See Appendix C-Methodology for projection method).

The 2025 projected data for Linden is shown in **Table 48 - Linden Public Buildings and Critical Facilities Vulnerability Assessment** show 19,427 feet of roads valued at \$3,671,776; 20,389 feet of water lines valued at \$1,121,415; one fire station valued at \$1,125,272 impacting 24 persons; and one government office valued at \$410,104 impacting two persons. In summary, the 2025 projections shows 88 buildings and infrastructure valued at \$31,789,061 impacting 241 persons. (See Appendix C-Methodology for projection method)

Table 46 - Linden Private Buildings Vulnerability Assessment

Hazard Type(s): Hurricane, Drought, Thunderstorms, Severe Winter Storms, Tornadoes, Extreme Heat, Wildfires, and Earthquakes

Current Conditions				Potential Future Conditions (Projection Year 2025)		
Type of Development	Number of Existing Private Buildings	* Current Value	Current Number of People	Projected Number of Private Buildings	Projected Value	Projected Number of People
Single-Family Residential	56	\$13,397,558	149	68	\$16,252,236	181
Multi-Family Residential	0	\$0	0	0	\$0	0
Commercial	8	\$1,446,462	20	10	\$1,754,666	24
Industrial	0	\$0	0	0	\$0	0
Other	7	\$6,144,380	8	8	\$7,453,591	10
Subtotal	71	\$20,988,400	177	86	\$25,460,493	215

* Values and building counts from County GIS Office- January 2010
The methodology used in preparing this data is described in Appendix C.

Table 47 - Linden Public Buildings and Critical Facilities Vulnerability Assessment

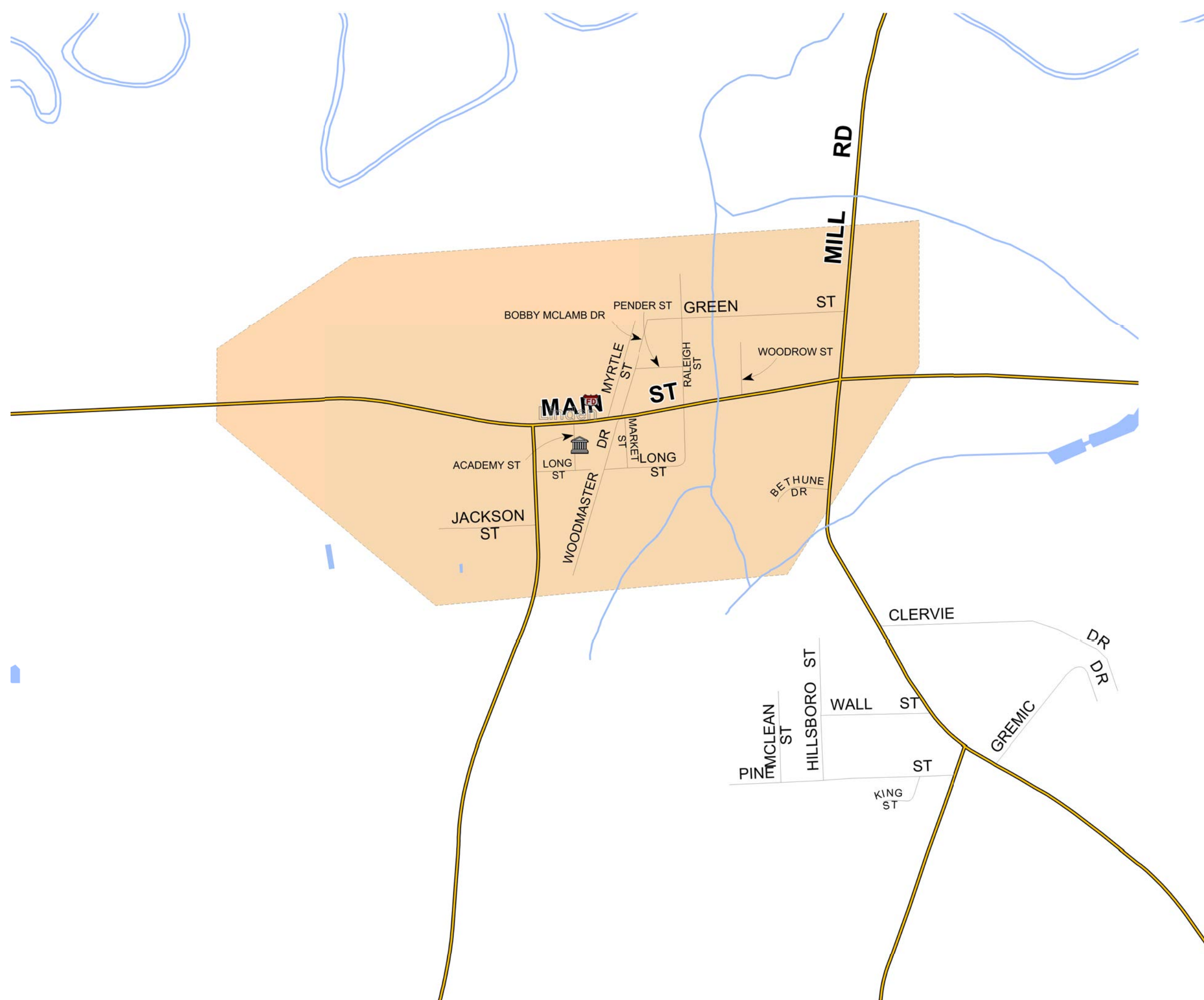
Hazard Type(s): Hurricane, Localized Flooding, Drought, Thunderstorms, Severe Winter Storms, Tornadoes, Extreme Heat, Wildfires and Earthquakes

Current Conditions				Potential Future Conditions (Projection Year 2025)		
Type of Development	Number of Existing Public Buildings & Critical Facilities	* Current Value	Current Number of People	Projected Number of Public Buildings And Critical Facilities	Projected Value	Projected Number of People
Sewage Treatment Plants	0	\$0	0	0	\$ 0	0
Water Treatment Plants	0	\$0	0	0	\$ 0	0
Hospitals/Rest Homes	0	\$0	0	0	\$ 0	0
Schools	0	\$0	0	0	\$ 0	0
Infrastructure (streets, bridges, drainage, dams, etc.)	Water lines - 16,808 ft Streets - 16,015 ft -	\$924,440 \$3,026,835	N/A	Water Lines – 20,389 Streets – 19,427	\$1,121,415 \$3,671,776	
Police Stations	0	\$ 0	0	0	\$ 0	0
Fire Stations	1	\$927,620	20	1	\$1,125,272	24
Hazard Materials Facilities	0	\$ 0		0	\$0	0
Government offices	1	\$338,070	2	1	\$410,104	2
Emergency Shelters	0	\$ 0	0	0	\$0	0
Public Housing	0	\$0	0	0	\$0	0
Subtotal:	Buildings - 2 Infrastructure	\$1,265,690 \$3,951,275	22	Buildings - 2 Infrastructure	\$1,535,376 \$3,671,776	26
TOTAL:	Buildings - 73 & Infrastructure	\$26,205,365	199	Buildings - 88 & Infrastructure	\$31,789,061	241

* Values and building counts from County GIS - January 2010
The methodology used in preparing this data is described in Appendix C.

Map 38

Town of Linden Critical Facilities



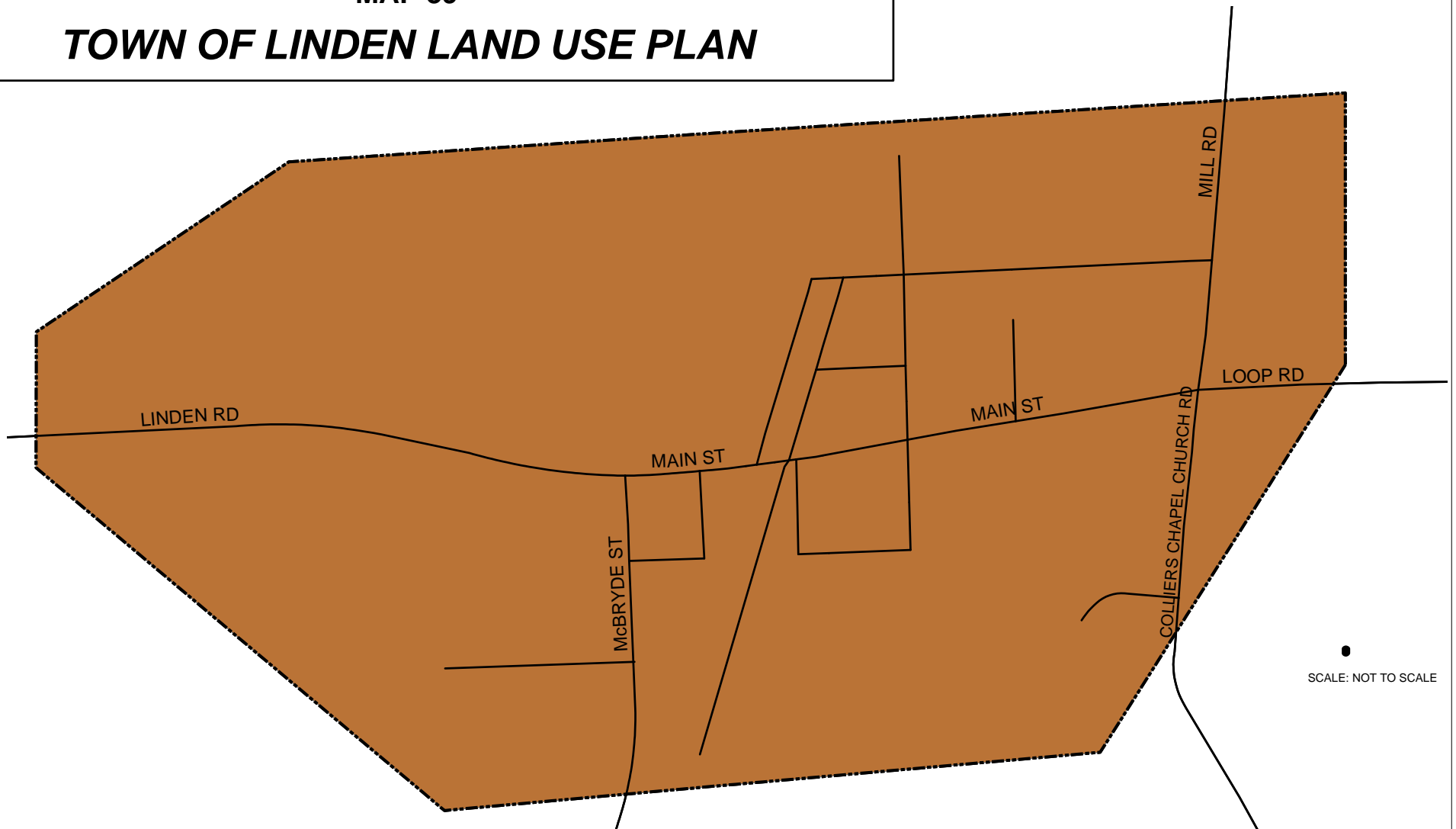
Legend

-  Town Hall
-  Fire Department
-  Municipal Boundary
-  Streams-Rivers
-  Lakes




MAP 39

TOWN OF LINDEN LAND USE PLAN

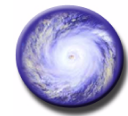


SCALE: NOT TO SCALE

Legend

- MUNICIPAL BOUNDARY
-  COMMUNITY GROWTH AREA

ALL OF THE TOWN OF LINDEN IS DESIGNATED FOR THE FOLLOWING HAZARDS: HURRICANES, TORNADOES, THUNDERSTORMS, DROUGHTS, SEVERE WINTER STORMS, EXTREME HEAT, WILDFIRES AND EARTHQUAKES.



Cumberland County
Multi-Jurisdictional
**HAZARD
MITIGATION
PLAN
UPDATE**

CAPABILITY ASSESSMENT

Local Departments, Agencies and Organizations

The Town of Linden operates under the Mayor/Council form of government and employs a Town Clerk. The Town provides administrative services. The Town purchases water from Harnett County and also contracts with them to operate and maintain Linden's water system. Cumberland County Sheriff's Department, Cumberland County EMS and Fire Station #20 Linden Volunteer Fire Department provide emergency services; Cumberland County Animal Control, Health, Mental Health, Social Services, and Solid Waste Departments provide public health and human services; Cumberland County Planning and Inspections provides planning services and enforcement of the State Building Code; County Engineering administers the Flood Damage Prevention Ordinance; and the County Tax Administration Department collects applicable taxes, fees and assessments for the Town. There are numerous State and Local Agencies and Organizations that provide services relevant to hazard mitigation for Linden residents. A complete list was presented within the Cumberland County Capability Assessment above.

Policy and Program Capability

This section includes the identification and evaluation of existing ordinances, policies, and programs that are relevant to the Town of Linden's vulnerability to natural hazards. This inventory consists of specific mitigation initiatives, their effectiveness and strategies to improve mitigation effectiveness. Additionally, this information is contained within **Table ___ - Linden Inventory of Local Ordinances, Policies and Programs Relevant to Hazard Mitigation**.

Most of the actions in the original Mitigation Plan that require ordinance revisions or policy changes have been completed and/or adopted. The Planning Staff currently has an ongoing process of rewriting, updating (zoning and subdivisions) and creating new ordinances for several of the local jurisdictions, including Town of Linden. These ordinances already comply with many of the mitigation actions that the Town has already endorsed. Those actions that have not been completed are more developer resistance and cost prohibit. The Technical Committee will continue educating citizens, elected officials and the development community concerning our mitigation efforts and actions.

Linden Subdivision Ordinance

The Town of Linden Subdivision Ordinance contains several sections that are relevant to hazard mitigation. These sections address specific design standards that mitigate such as flooding, fire, and drainage.

2030 Cumberland County Growth Vision Plan Policies, Actions, and Map

Cumberland County, along with all the municipalities in the County adopted this land use plan which serves as a guide for development. This Plan contains several recommendations relevant to hazard mitigation. The Plan recommends the provision of open space/environmental corridors along rivers and major water features, which reduces the amount of development within and adjacent to the floodplain and protects the natural riparian cover adjacent to these water features. Recommendations also include using environmental corridors as a network of greenways connecting recreation and school facilities with natural areas. The Plan recommends all development activity within the Special Flood Hazard Area be limited to low intensity uses. Development standards are also recommended to reduce the amount of impervious surfaces and to protect existing natural features. A Land Use Plan Map was also adopted, which provides a guide for orderly growth and development. The Plan applies to all of the jurisdictions within the County including Linden.

Cumberland County Land Use Policies Plan

Cumberland County has developed and adopted a land use policies plan. That serves as a guide for development. This Plan contains location criteria for development relevant to hazard mitigation by limiting the type and intensity of development within the Special Flood Hazard Area. This Plan applies to the Town of Linden.

Flood Damage Prevention Ordinance - Cumberland County has developed and adopted a Flood Damage Prevention Ordinance designed to minimize the public and private losses due to flood conditions in specific areas and to protect the public health, safety and welfare. The Town of Linden adopted this ordinance, which establishes the requirements for elevation and flood proofing (non-residential) to base flood elevation and a development permit.

National Flood Insurance Program and Community Rating System - The National Flood Insurance Program (NFIP) provides flood insurance to individuals in local jurisdictions that are members of the program. Membership in the Program is based upon the adoption and enforcement of floodplain management and development regulations. Even though the Town of Linden does not have any designated Special Flood Hazard Area within the Town, they approved the participation in the National Flood Insurance Program. Compliance of the NFIP for the Unincorporated Area, Eastover, Falcon, Godwin, Linden, Stedman and Wade is responsibility of the Cumberland County Engineering Department. They maintain the Cumberland County flood maps and Flood Damage Prevention Ordinance and issue Floodplain Development Permits for those jurisdictions in accordance with compliance of NFIP. An element of the NFIP is the Community Rating System (CRS), which adjusts flood insurance premiums relative to a local jurisdiction's investment in flood damage mitigation. Inclusion in the CRS involves submitting a local jurisdiction's floodplain management procedures for evaluation.

NCDOT Subdivision Roads Minimum Construction Standards - The North Carolina Department of Transportation has established minimum construction standards for new subdivision roads (to be dedicated as public or private). According to North Carolina General Statutes, all new subdivision roads connecting to the State system must obtain a construction permit from a Division of Highways District Engineer and must meet these construction standards. Standards relevant to hazard mitigation include: surface and subsurface drainage, bridges, roadway dams, and specifications for design and construction to accommodate emergency vehicles.

2000 International Building Code with North Carolina Amendments - This Code provides specific standards for plumbing, building, mechanical and electrical construction, mandated by the State of North Carolina. This Code is under the jurisdiction of the North Carolina Department of Insurance and is enforced locally by the Cumberland County Planning and Inspections Department.

N.C. General Statutes 113A Article 4 Sedimentation Pollution control Act - This Act provides a mechanism to protect existing natural resources and the public health, safety and welfare through sedimentation and erosion control. The State of North Carolina administers permitting and enforcement measures for Cumberland County and the municipalities therein.

Mid-Carolina Rural Planning Organization - The Mid-Carolina Rural Planning Organization provides detailed planning and classifications for the road network within the Rural Planning Area in order to provide adequate traffic movement. Classifications and design specifications are assigned to roads in order to ensure adequate right-of-way and design as transportation improvements are initiated.

Cumberland County Emergency Operations Plan - Cumberland County prepared and adopted this Plan in order to reduce the vulnerability of people and property to a disaster and to provide an effective means of response in the event of a disaster. This Plan also includes an inventory of critical facilities that would be impacted during a disaster.

Sandhills Area Land Trust - The Sandhills Area Land Trust is a non-profit organization working with citizens, developers, local government, and landowners to preserve the natural resources and environment within the Sandhills. This organization is working with Cumberland County, as well as 6 other counties, to accept donations of land, arrange leases to protect special land holdings and works to negotiate conservation easements.

Cape Fear River Assembly - The Cape Fear River Assembly has a membership of approximately 400 and a 34-member Board of Directors representing 29 counties within the Cape Fear River Basin. The purpose of the Assembly is to provide the highest quality of life for residents within the Cape Fear River Basin through proper management of the Cape Fear River, its tributaries and adjacent land uses.

Sustainable Sandhills - This initiative, comprised of members of communities within 6 counties bordering Fort Bragg and Camp Mackall and the Military, is working to provide a model for regional sustainability planning. Sustainability planning focuses on balancing preservation of natural resources, economic development strategies, development, and Military operations. Cumberland County is represented within this initiative.

Joint Compatible Land Use Study 2003 - The purpose of this Study is to provide policies and implementation measures to mitigate conflicts between urban development and Military operations at Fort Bragg, Pope Air Force Base and Camp Mackall. Cumberland County is included within this Study.

Table 48 - Linden Inventory of Local Ordinances, Policies and Programs Relevant to Hazard Mitigation

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Linden Subdivision Ordinance 10/20/09	Section 406(b)(c) Section 407 (a)	To provide standards for the construction of or improvements within a subdivision	moderate	This ordinance provides specific standards that address drainage during construction or improvements within a subdivision such as drainage, underground utilities and the installation of fire hydrants	
Flood Damage Prevention Ordinance 10/17/06		To minimize the public and private losses due to flood conditions in specific areas and to protect the public health, safety, and welfare.	HIGH	This Ordinance outlines general standards required in all special flood hazard areas and specific development standards required in all special flood hazard areas where base flood elevation data has been provided. A floodplain development permit is required.	
National Flood Insurance Program 3/6/01		To provide flood insurance for individuals within jurisdictions having membership in the program. Membership is based upon having floodplain management and development regulations. Compliance to the NFIP is the responsibility of the Cumberland County Engineering Department.	HIGH	Member	

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
NCDOT Subdivision Roads Minimum Construction Standards 7/1/85	Minimum Design and Construction Criteria Section	To provide standards for the design, construction and maintenance of subdivision roads in order to protect the public health, safety, and welfare.	HIGH	This manual outlines specific design, construction and maintenance standards to mitigate potential flooding due to subdivision road construction.	
2030 Growth Vision Plan, Policies, and Actions 01/18/09	Pages 37-38	To protect the special Flood Hazard Areas. To reduce the amount of impervious surfaces	Moderate	The Plan recommends all development activities be limited to low intensity uses such as open space, recreation, and adequately buffered agricultural activities	
Cumberland County Land Use Policies Plan 08/18/09	Page 28	To protect Special Flood Hazard Areas	Moderate	The Plan recommends location criteria for development within the Flood Hazard Areas	
N.C. General Statutes 113A Article 4 Sedimentation Pollution Control Act		To protect existing natural resources and the public health, safety, and welfare.	HIGH	This Act provides a mechanism for sedimentation and erosion control including permitting and enforcement measures.	
Mid-Carolina Rural Planning Organization		To provide comprehensive transportation planning within the rural portion of Cumberland County in order to protect the public health, safety, and welfare.	HIGH	This Organization provides specific plans and technical support for all types of transportation planning within the Rural Planning Area.	

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Cumberland County Emergency Operations Plan 11/06/07		To provide actions to reduce the vulnerability to a disaster and enhance the recovery from a disaster in order to protect the public health, safety, and welfare.	HIGH	This Plan provides actions to be taken to reduce the vulnerability of people and property to disaster establish an effective mechanism to respond in the event of a disaster and identifies critical facilities impacted during a disaster.	
Sandhills Area Land Trust (SALT)		A non-profit organization working to preserve the natural beauty and environment of the Sandhills Region. Cumberland County is one of 7 counties working with SALT.	HIGH	This Organization works with citizens, developers, municipalities and landowners to retain the Region's unique environmental features and positively influence growth and development.	
Cape Fear River Assembly		To provide the highest quality of life within the Cape Fear River Basin.	HIGH	This Organization provides scientific study, economic analysis and education in order to make decisions regarding the proper management of the Cape Fear River, its tributaries and adjacent land uses.	
Sustainable Sandhills		To provide regional sustainability planning that preserves natural resources, enhances economic development and improves the quality of life for present and future generations.	HIGH	This Initiative, comprised of members of communities in 6 counties bordering Fort Bragg and Camp Mackall and the Military, is working to provide a cooperative effort to provide a model for regional sustainability planning.	

TITLE & ADOPTION DATE	DOCUMENT REFERENCE	PURPOSE & DESCRIPTION	MITIGATION EFFECTIVENESS	RATIONALE FOR EFFECTIVENESS	MITIGATION STRATEGY
Joint Compatible Land Use Study 2003		To provide policies and implementation measures to mitigate conflicts between urban development and Military operations on a Regional basis.	MODERATE	This Study provides compatibility measures and land use policy recommendations that have not been adopted.	Adopt the Land Use Study.